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The Journal of Experimental Education

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CHILD DEVELOPMENT

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MENTAL GROWTH FROM PRESCHOOL TO COLLEGE

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The general purpose of this investigation has been to study the mental growth of the same individuals re-examined at brief intervals from the preschool ages into college. In the analysis of results, emphasis has been placed on accounting for the particular patterns of development found rather than on mere description of the patterns. Thus concern has been not so much with the form of the mental growth curve as with determining why the curve has taken on that form. More specifically, the aims of the investigation have been: (1) to study the relation of intelligence at an early age to ability several years later, (2) to investigate the factor of schooling as it affects the course of childhood development, and (3) to compare the later development of children attending preschools with that of nonpreschool children.

College entrance examination percentiles at the University of Iowa were obtained on seventy-eight students to whom a Stanford-Binet intelligence examination had been given at a mean age of 66 months[1] (Table 1). At the time of the college examination their mean age was 18 years, 2 months. Twenty-one of the students had been enrolled in the preschool laboratories of the Iowa Child Welfare Research Station. Their initial tests were obtained at the ages of three to five years, inclusive, the mean age being fifty-one months. The other fifty-seven students were first examined at the ages four to eight years, the mean being seventy-two months. They did not attend preschool and are designated as the nonpreschool-primary group.

American Council of Education intelligence test percentiles per age[2] were obtained on eighty-two high school students examined at a mean age of 15 years, 10 months, whose initial examination was at the age of 66 months. Forty-one were preschool children and forty-one were nonpreschool-primary children.

[1] These percentiles were obtained from Dr. Daniel D. Feder, who administers the qualifying examinations at the University. The writer wishes to express her appreciation to Dr. Feder for his co-operation.

[2] The Council test was given to 30,000 children in grades nine to twelve in a state-wide testing program conducted in 1934 under the direction of Professor Everet F. Lindquist of the College of Education of the State University of Iowa. Scores on this test for the children of this study were secured through the courtesy of Professor Lindquist and the superintendents or principals of the schools in which the children were enrolled. The writer expresses her very great appreciation to the school authorities and to Professor Lindquist for furnishing her with these data.

TABLE 1

COMPOSITION OF GROUPS

	Children	Initial Test: Chronological Age, Months	Initial Test: Binet IQ	Initial Test: Range in IQ	Attendance in University Schools, Years	Chronological Age: Years	Chronological Age: Months
College Entrance Examination							
Total	78	66	116		7	18	2
Preschool	21	51	126	89 to 155	7	17	6
Nonpreschool-Primary	57	72	112	73 to 147	7	18	4
American Council of Education Test at Senior High School							
Total	82	66	116		7	15	10
Preschool	41	52	118	66 to 155	7	15	1
Nonpreschool-Primary	41	80	115	77 to 142	7	16	6

The groups were somewhat superior in ability, having a mean initial IQ of 116. The range of IQ's for the preschool children given the college examination was 89 to 155, with a mean of 126. The nonpreschool-primary children had IQ's ranging from 73 to 147, with a mean of 112. The preschool children having the Council test ranged in IQ from 66 to 155 with a mean of 118 and the nonpreschool-primary children 77 to 142 with a mean of 115. The Stanford-Binet revision was used with children three and one-half years or older. Some of the younger children were tested on the Stanford revision and others on the Kuhlmann revision.

Both preschool and nonpreschool children spent on the average seven years in the University school system up to the time of the later measures, the remainder of their education being elsewhere. The range of attendance was from one year to fourteen years. In computing the years of attendance, each year in preschool, the University elementary school, or the University high school was counted as one. The maximum possible attendance for any child was fifteen years, including three years in preschool for a child beginning at three years of age and the twelve years to complete high school.

Some of the same children were included in both the Council and college examination. Seventeen of the preschool and sixteen of the nonpreschool children were identical.

In Table 2, in parallel columns, are presented the correlations between initial measurements and the two later measures. It will be seen that there was a substantial relationship between IQ at these early ages and percentile on the Council intelligence test ten to eleven years later, represented by the correlation of .51. The correlation for the preschool portion of the group was as high as for primary children who were examined at a mean age of 80 months. There was a higher relationship between IQ at ten to fourteen years and Council percentile, represented by the correlation of .67, for fifty-two of the children who were re-examined within these age limits. The interval in this case was three years.

From previous studies (3, 4, 5), it has appeared that the course of intellectual development of children in the University schools differs from that found in many other school systems. Children attending the University schools have been found to gain in IQ in substantial amounts. In the group studied here the correlation between number of years spent in the University school system and Council percentile was a substantial one, .43. The correlation with number of years attendance for the preschool portion of the

TABLE 2

CORRELATIONS BETWEEN INITIAL IQ AT THE PRESCHOOL AND PRIMARY AGES AND PERCENTILES AT SENIOR HIGH SCHOOL AND COLLEGE ENTRANCE

	American Council of Education Test		College Entrance Examination	
	Children	r	Children	r
Initial IQ and percentile	82	.51 ± .06	78	.42 ± .06
Preschool	41	.48 ± .08	21	.07 ± .15
Nonpreschool-Primary	41	.49 ± .08	57	.48 ± .07
IQ at 10 to 14 years and percentile	52	.67 ± .05	44	.56 ± .07
Years attendance in University schools and percentile	82	.43 ± .07	78	.40 ± .07
Preschool	41	.45 ± .09	21	.42 ± .13
Nonpreschool-Primary	41	.40 ± .09	57	.34 ± .08
Initial IQ and years attendance	82	.04 ± .08	78	—.07 ± .08
Initial IQ and percentile, short attendance group	25	.69 ± .07	27	.46 ± .09
Partial Correlations				
Initial IQ and percentile, with years attendance constant	82	.55 ± .05	78	.49 ± .06
Years attendance and percentile with initial IQ constant	82	.48 ± .06	78	.47 ± .06
Multiple Correlations				
Initial IQ plus years attendance and percentile	82	.65 ± .05	78	.60 ± .05

group was .45 and for the nonpreschool portion .40.

Initial IQ and number of years attendance were not related, the correlation being .04. This indicates that there was no particular tendency for children with the higher IQ's to remain longer in the University system.

Since there was this definite effect of educational environment upon later intelligence, it seemed probable that the first correlation reported with initial IQ might not represent the relation to be expected under more usual school conditions, the children having spent, on the average, seven years in the University schools. To check on this, a correlation was run separately on children who had spent one to five years in the University schools, called the short attendance group. This resulted in a correlation of .69, considerably higher than for the total group.

Combining the two variables, initial IQ and number of years attendance, into a multiple r resulted in a correlation of .65. This represents the predictive value of an intelligence test over a period of ten to eleven years. The multiple correlation, considered in conjunction with the correlation for the short attendance group, indicates that considerable reliance can be placed on IQ's obtained at an early age. The correlations also show that unusual educational environment may operate to reduce the relationship with initial ability.

The correlations with the college entrance qualifying examination in the second column of Table 2 follow the same trend but the relationships are slightly lower throughout. With initial IQ the correlation was .42; with years attendance in the University system .40. The multiple r combining these two factors was .60. This relationship may be regarded as eminently satisfactory when one considers that it represents the correspondence between two different types of measures taken thirteen years apart. One can predict college entrance status as accurately from an intelligence test thirteen years earlier as most investigators have been able to predict college achievement from the entrance examination.[3]

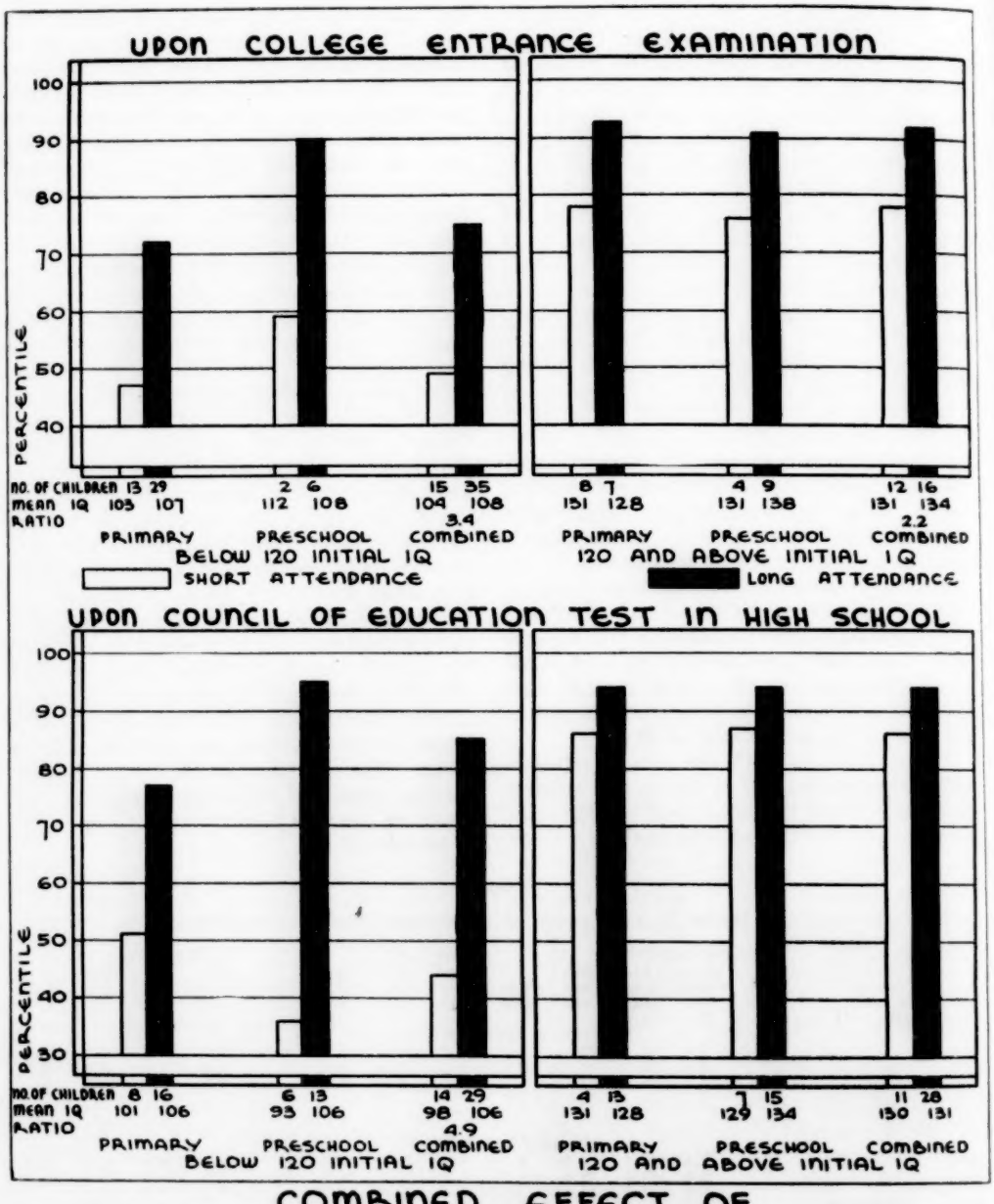
One correlation in the college series deviates from the trend for the Council series. It will be noted that initial IQ of the preschool group was not related to the college percentile but that number of years attendance for this group was positively related to college percentile to the extent of .42. Figure 1 and Table 3 will furnish an explanation. Here are compared children having initial IQ's below 120 (left half of figure) with those having initial IQ's of 120 or above (right half of figure). Each group was subdivided into preschool and primary and further subdivided into short attendance (white columns) and long attendance groups (black columns). The short attendance group attended the University schools one to five years, and the long attendance group six or more years. In every comparison the long attendance group made higher percentiles than the short attendance group. The difference for the lower IQ classification, preschool and nonpreschool-primary combined, was 26.5 percentiles. This differ-

[3] See Feder (2).

TABLE 3

COMBINED EFFECT OF INITIAL IQ AND LENGTH OF ATTENDANCE UPON COLLEGE ENTRANCE PERCENTILES

Length of Attendance	Nonpreschool-Primary				Preschool				Combined				
	Children	Years Attendance	Initial IQ	Percentile	Children	Years Attendance	Initial IQ	Percentile	Children	Years Attendance	Initial IQ	Percentile	S. D.
Below 120 Initial IQ													
Long	29	9.9	107.3	72.0	6	10.5	108.3	90.2	35	10.0	107.5	75.1	22.9
Short	13	2.5	103.0	47.0	2	1.0	112.0	59.0	15	2.3	104.2	48.6	26.2
Difference		7.4	4.3	25.0		9.5	—3.7	31.2		7.7	3.3	26.5	
Ratio of difference to standard deviation of difference											.9	3.4	
120 and Above Initial IQ													
Long	7	8.4	128.1	92.9	9	9.3	138.1	90.9	16	8.9	133.8	91.8	7.6
Short	8	2.6	131.1	78.3	4	1.8	131.3	76.0	12	2.3	131.2	77.5	21.2
Difference		5.8	—3.0	14.6		7.5	6.8	14.9		6.6	2.6	14.3	
Ratio of difference to standard deviation of difference											.7	2.2	
All IQ's													
Long	36	9.6	111.3	76.1	15	9.8	126.2	90.6	51	9.7	115.7	80.4	20.8
Short	21	2.5	113.7	58.9	6	1.5	124.8	70.3	27	2.3	116.2	61.4	28.0
Difference		7.1	7.6	17.2		8.3	1.4	20.3		7.4	—.5	19.0	
Ratio of difference to standard deviation of difference											.1	3.1	



COMBINED EFFECT OF INITIAL IQ AND LENGTH OF ATTENDANCE

FIGURE 1

ence was statistically significant, the ratio of the difference to the standard deviation of the difference being 3.4. The initial IQ of the short attendance group was 104.2 and of the long attendance group 107.5. The slight superiority in IQ of the long attendance group does not explain the wide difference in percentiles.

The difference in college examination for the higher IQ classification, 120 and above, was 14.3 percentiles in favor of the long attendance group. This difference yielded a ratio of 2.2, or 98.6 chances in 100 of a true difference. The initial IQ of the short attendance children was 131.2 and of the long attendance children 133.8.

The total group of fifty-one long attendance children received a mean percentile of 80.4, while the twenty-seven short attendance children received a mean percentile of 61.4. The difference of 19.0 percentiles in favor of the long attendance children was statistically significant. The two groups were nearly identical in initial IQ, the means being respectively 115.7 and 116.2.

It will be noted that the preschool children in the lower IQ classification and of long attendance obtained a mean percentile of 90.2, practically equal to that obtained by other children starting initially much higher in IQ. These preschool children had a mean initial IQ of 108.3 and had attended the University schools on the average ten and one-half years. On retests at thirteen years of age, their mean IQ was 133.2, evidencing a mean gain of 24.9 IQ points from their initial status. It is this group of children which has disturbed the correlation between initial IQ and college examination for the preschool group.

The Council percentiles (Figure 1 and Table 4) follow the same trend as the college percentiles, the long attendance children being higher throughout and the long attendance preschool children of initially lower IQ's making as high a percentile as other children initially very superior in IQ.

The long attendance children of the lower IQ classification received a mean percentile on the Council test of 84.8, while the short attendance children of the same classification received a mean percentile of only 44.2. The difference of 40.6 in favor of the long attendance children was statistically significant, the ratio of the difference to the standard deviation of the difference being 4.9. In the short attendance group of initially high IQ (120 and above), there were only eleven children and the significance of the difference was not computed for this classification. The total group of fifty-seven long attendance children received a mean Council percentile of 89.3, while the twenty-five short attendance children received a percentile of 62.8. The superiority of 26.5 percentiles by the long attendance children was statistically significant, the ratio being 4.0. The long attendance children were, however, 6.8 points higher in initial IQ than the short attendance group. This difference in IQ does not seem sufficient to account for the large difference in percentiles.

TABLE 4

COMBINED EFFECT OF INITIAL IQ AND LENGTH OF ATTENDANCE UPON COUNCIL OF EDUCATION PERCENTILES

Length of Attendance	Nonpreschool-Primary					Preschool					Combined				
	Children	Years Attendance	Initial IQ	Percentile	S. D.	Children	Years Attendance	Initial IQ	Percentile	S. D.	Children	Years Attendance	Initial IQ	Percentile	S. D.
Below 120 Initial IQ															
Long	16	9.7	106.3	76.8		13	9.8	106.0	94.6		29	9.7	106.1	84.8	16.8
Short	8	2.0	100.8	50.5		6	2.7	93.3	35.8		14	2.3	97.6	44.2	28.5
Difference		7.7	5.5	26.3			7.1	12.7	58.8				8.5	40.6	
Ratio of difference to standard deviation of difference														4.9	
120 and Above Initial IQ															
Long	13	8.1	127.8	94.4		15	8.3	133.6	93.5		28	8.2	121.0	93.9	6.7
Short	4	3.0	130.8	85.5		7	1.9	128.7	86.9		11	2.3	129.5	86.4	
Difference		5.1	—3.0	8.9			6.4	4.9	6.6			5.9	1.5	7.5	
All IQ's															
Long	29	9.0	115.9	84.7	16.7	28	8.9	120.9	94.0	6.8	57	9.0	118.4	89.3	13.6
Short	12	2.3	110.8	62.2		13	2.2	112.4	63.3		25	2.3	111.6	62.8	32.0
Difference		6.7	5.1	22.5			6.7	8.5	30.7			6.7	6.8	26.5	
Ratio of difference to standard deviation of difference														4.0	

The thirteen preschool children who initially were in the lower IQ classification, having a mean IQ of 106.0, received a mean Council percentile of 94.6. This was as high as the score received by children initially testing 120 or above in IQ. At the age of thirteen years, these children had a mean IQ of 123.8, a gain of 17.8 points from their initial status. This group included five of the six preschool children in the long attendance group on the college examination, shown in Table 3. On the Council test, these five children made a mean percentile of 95.2 as compared with 94.3 for the nonduplicating other eight children. They were thus not solely responsible for the high status of the group on the Council test, and the high score cannot be considered due to idiosyncracies of these particular children since the other eight children behaved in the same way.

In both college and Council groups when preschool and nonpreschool-primary children were combined, children of long attendance who initially tested higher in IQ made higher percentiles than other long attendance children who initially tested lower in IQ. On the college examination the superiority was 16.7 percentiles, the sixteen children in the high classification receiving a mean percentile of 91.8 and the thirty-five children in the lower classification 75.1. The ratio was 3.9. On the Council test the superiority was 9.1 percentiles, the twenty-eight children in the high classification receiving a mean percentile of 93.9 and the twenty-nine children in the lower IQ classification receiving a mean percentile of 84.8. The ratio was 2.7, or 99.7 chances in 100 of a true difference. It is clear that it was the nonpreschool-primary portion of the group which was responsible for this difference, since, as has already been pointed out, the preschool children who initially tested low but who had long attendance were equal to the other children who initially tested very superior. The long attendance primary children who initially tested very superior were equal to the preschool children of the same initial levels. But the long attendance primary children initially testing lower in IQ fell below the preschool children of the same initial status and also below other primary children who initially tested higher. On the college examination the seven primary children of high initial IQ received a mean percentile of 92.9, while the twenty-nine children with a mean initial IQ of 107.3 received a mean percentile of 72.0, a difference of 20.9 percentiles. On the Council test the thirteen long attendance primary children of high initial IQ received a mean percentile of 94.4, while the sixteen other long attendance primary children with a mean IQ of 106.3 received a mean percentile of 76.8, a difference of 17.6 percentiles.

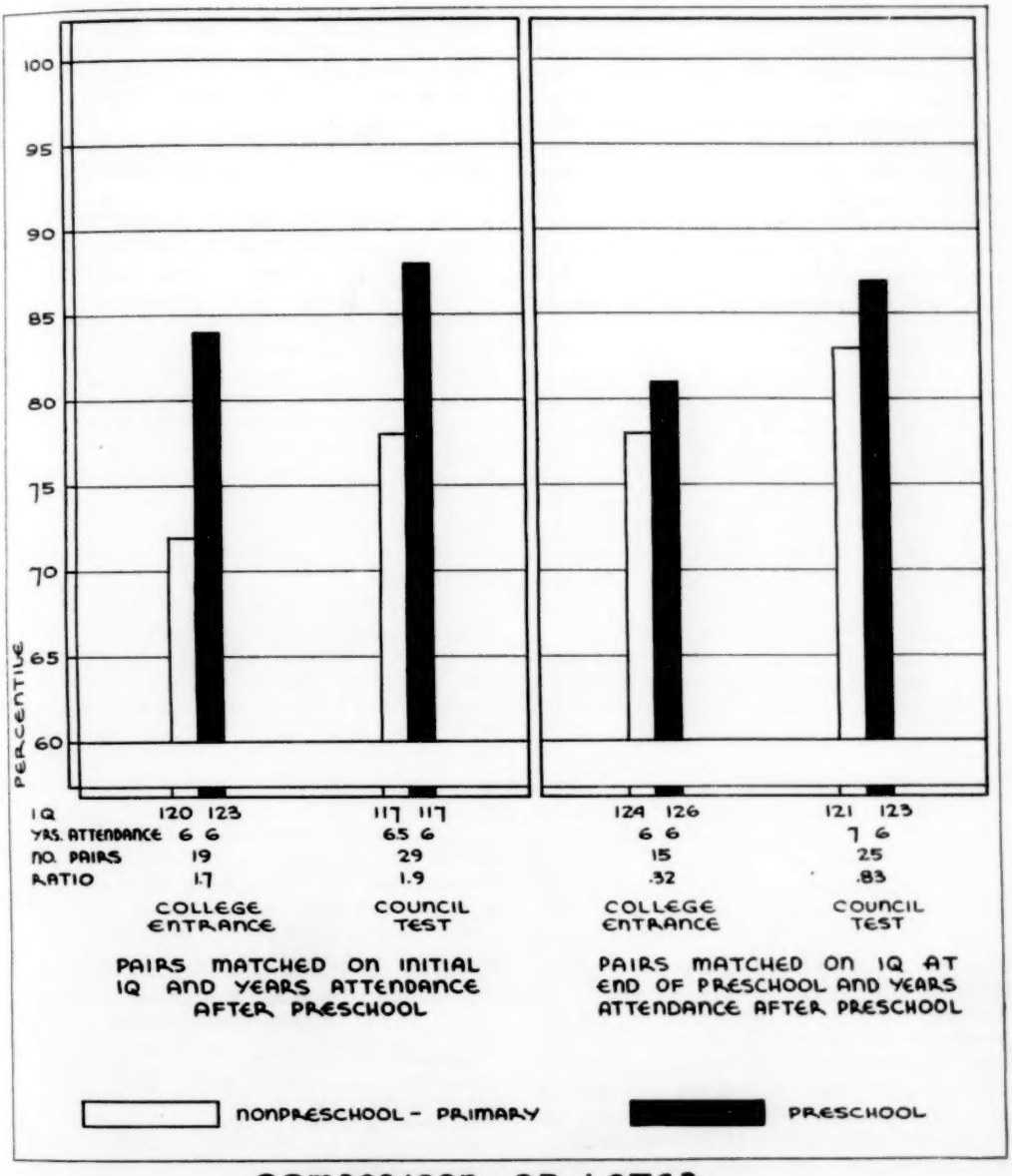
From these comparisons, it appears that the development of preschool and nonpreschool children is somewhat different. Figure 2 and Table 5 check on this point more adequately. Here are compared preschool and matched nonpreschool children. The first pairs were matched on initial IQ, with a maximum variation of ten points, and on years attendance after preschool, with a maximum variation of two years. This resulted in

TABLE 5

COMPARISON OF LATER STATUS OF PRESCHOOL WITH MATCHED NONPRESCHOOL-PRIMARY CHILDREN*

Group	Children	Chronological Age, Months	IQ	Years Attendance	Percentile	S. D.	Children	Chronological Age, Months	IQ	Years Attendance	Percentile	S. D.
Pairs Matched on Initial IQ and Years Attendance After Preschool												
		College Examination							Council Test			
Preschool	19	50.3	122.8	5.6	83.9	20.3	29	51.7	117.3	6.2	88.1	16.1
Nonpreschool-primary	19	70.3	120.1	6.1	71.9	23.2	29	82.3	116.8	6.5	78.3	22.3
Difference		—20.0	2.7	—.5	12.0			—30.6	.5	—.3	9.8	
Ratio of difference to standard deviation of difference					1.7						1.9	
Pairs Matched on IQ at End of Preschool and Years Attendance After Preschool												
		College Examination							Council Test			
Preschool	15	61.9	125.7	6.1	80.5	21.6	25	67.2	123.3	6.6	87.4	16.4
Nonpreschool-primary	15	72.8	123.7	6.3	78.2	17.5	25	79.9	121.1	6.7	83.0	20.4
Difference		—10.9	2.0	—.2	2.3			—12.7	2.2	—.1	4.4	
Ratio of difference to standard deviation of difference					.32						.83	

*Maximum variation between pairs was 10 points in IQ and two years attendance.



COMPARISON OF LATER STATUS OF PRESCHOOL WITH MATCHED NONPRESCHOOL-PRIMARY CHILDREN

FIGURE 2

nineteen pairs to be compared on the college examination and twenty-nine pairs on the Council test. Since there was a greater number of nonpreschool-primary than preschool children, averages were taken for a pairing when two or more children met the criteria for matching, but no child was used twice. The college preschool children were 20.0 months younger than the nonpreschool-primary children at their initial test. Their ages ranged from thirty-five to sixty-seven months with a mean of 50.3, while the ages of the nonpreschool-primary children ranged from sixty-four to eighty-two, with a mean of 70.3 months.

The range of attendance was 0 to 12 years for preschool children and 1 to 12 years for the nonpreschool children. Six of the preschool children did not attend the University schools at all after preschool, while ten children attended six or more years. The mean for the nineteen children was 5.6 years. Because of the fact that the early testing program was carried out almost exclusively in the University schools, every child in the nonpreschool group attended at least one year. Their mean attendance was 6.1 years.

The preschool children made a mean score 12.0 percentiles higher than the nonpreschool-primary children of equal IQ and equal years attendance excluding preschool. This difference yielded a ratio of 1.7, or 96 chances in 100 of a true superiority.

Since both groups attended the University schools for a relatively long time, the effects of preschool alone are not shown as clearly by this comparison as if neither group had attended the University schools after preschool. Subdivision of the preschool group into those who did not attend at all after preschool and those who had a history of long attendance shows that the superiority of the preschool children over the nonpreschool children was greater when neither group attended after preschool and reduced but still present when both attended six or more years. As in previous analyses, long attendance children, both preschool and nonpreschool, were considerably superior to short attendance children.

The six preschool children who did not attend the University schools after preschool showed the following superiority over their nonpreschool paired companions in comparison with the ten children who attended six or more years and their paired companions:

	Children	Preschool	Nonpreschool	Difference
No attendance after preschool	6	70.3	54.0	16.3
Six or more years attendance after preschool	10	88.4	80.4	8.0

The mean initial IQ of the six preschool children was 124.8, 2.0 points higher than for the total preschool group.

The groups receiving the Council test differed more in age at initial test, the nonpreschool-primary children being 30.6 months older. The range of attendance after preschool was 0 to 11 years for the preschool group and 1 to 12 years for the nonpreschool group. Five of the preschool children did not attend the University schools at all after preschool, while eighteen attended six or more years. The preschool children were superior in Council percentile to the paired nonpreschool children of equal IQ and equal attendance. The difference was 9.8 percentiles and the ratio 1.9, or 97 chances in 100 of a true superiority.

The five preschool children with no attendance after preschool made a mean percentile of 74.4 as compared with 88.1 for the total preschool group, and their paired companions made a mean percentile of 54.4 as compared with 78.3 for the total nonpreschool group. The five preschool children had a mean initial IQ of 117.8, almost identical with the mean for the total group.

The eighteen preschool children who attended six or more years after preschool showed the following superiority over their paired companions as compared with the eleven children having 0 to 5 years attendance after preschool and their paired companions:

	Children	Preschool	Nonpreschool	Difference
0 to 5 years attendance after preschool	11	79.5	64.6	14.9
6 or more years attendance after preschool	18	93.4	86.6	6.8

On both college and Council tests, it thus appears that preschool children showed an advantage over nonpreschool children, even when all had been a long time under the same stimulating educational environment. The advantage appears much more marked when all had been under less stimulating educational environments after preschool. In other

words, the effect of the University schools after preschool was to reduce the differences brought about by preschool by the method of bringing all children to a still higher level. The differences between preschool and nonpreschool children revealed in Table 5 would, therefore, have been greater if a smaller proportion of the groups had been subjected to the stimulating influence of the University elementary school.

Another type of analysis supports the above deductions. During the period when they were in preschool, the children gained in IQ. Thus at elementary school entrance, or at the end of preschool, they were higher in IQ than their paired companions. Figure 2 and Table 5 also compare them with nonpreschool children when the basis of matching was IQ at the end of preschool and years attendance thereafter. Results are presented for fifteen pairs on the college examination and twenty-five pairs on the Council test. Due to the fact that some children attended preschool only a short time and that at least six months normally elapse between the testing program at the end of one school year and that at the beginning of the next, they were as a group about a year younger than the nonpreschool children. On both college and Council tests, the differences between preschool and nonpreschool children tended to disappear when equated in this fashion. On the college test, the preschool children were 2.3 percentiles higher than the nonpreschool children and on the Council test 4.4 percentiles higher. The ratios were .32 and .83, or only 63 and 80 chances in 100 of true differences.

When the preschool group was subdivided into those with 0 to 5 years of attendance after preschool and those with 6 or more years of attendance after preschool, there was no essential difference from their paired companions in either subgroup. The subgroups yielded the following results:

In both college and Council groups the gain of the preschool children from initial IQ to IQ at the end of preschool was 8.2 points.

The results in Table 5 show that groups equated on IQ at the beginning of their elementary school career and having the same educational environment thereafter were approximately equal in status at the end of high school. They suggest also that the acceleration in IQ associated with preschool attendance was an influential factor in determining later status. The number of cases is small, but the results are internally surprisingly consistent, the subgroups bearing out the findings for the total group and further clarifying the interpretations.

It might be argued that intelligence tests at the preschool ages give too low an IQ and that matching preschool children with older children is thus not fair to the older children. Several lines of evidence indicate that this reasoning is erroneous: (1) In the literature more often the reverse opinion is expressed, that tests at the preschool ages give too high an IQ. The writer has found, in tests given to more than a thousand children, no evidence that the IQ obtained is either generally too high or too low. (2) Children who do not attend preschool do not make these gains. Retests reported by the writer (5) of sixty-eight nonpreschool children at an interval of 8.2 months showed a change of —1.8 points. The mean initial IQ of these children was 118.0, corresponding closely to that of the preschool children. (3) Preschool children do not gain over the summer vacation months, but gain each year they are in preschool. Mean changes over the summer months consistently hover about one or two points, as shown in the study by Coffey and Wellman (1). (4) During the elementary school years, the preschool children continue to gain in IQ when under the educational influences of the University schools, but do not change in IQ when

	Children	Initial IQ	IQ at End of Preschool	Nonpreschool IQ	Percentile Preschool	Percentile Nonpreschool
College						
0 to 5 years attendance	6	117.3	129.0	128.5	69.3	67.8
6 or more years attendance	9	117.7	123.4	120.4	88.0	85.1
Council						
0 to 5 years attendance	8	113.0	122.1	120.6	75.1	73.1
6 or more years attendance	17	116.1	123.9	121.4	93.2	87.6

under certain other school influences (See Wellman (5)).

Individual growth curves for nine selected individuals in Binet IQ on re-examinations from three years to fourteen years, together with Council and college percentiles are presented in Figure 3. The solid line represents growth in IQ while enrolled in the University schools, and the dotted line while enrolled in other schools. For convenience, the 50th percentile is set opposite 100 IQ and the 100th percentile opposite 150 IQ, the purpose being to show in a general way how the position of the individual on the later measures corresponds with his position on the Binet test.

The first three curves show the amount of change taking place in children who initially tested average IQ. The maximum change was from an IQ of 98 to 167. The other two children closely approximated this with changes from 98 to 153 and 89 to 149. Large changes were not confined to children testing initially low, however, as will be seen by the change from 121 to 150 for child No. 4, and from 124 to 165 for child No. 5.

Summary

The mental growth of the same individuals re-examined from the preschool or primary ages to college entrance was studied. College entrance qualifying examination percentiles were obtained on seventy-eight students, twenty-one of whom had attended preschool and fifty-seven of whom were nonpreschool-primary children. American Council of Education intelligence test percentiles per age were obtained on eighty-two high school students, of whom forty-one were preschool and forty-one nonpreschool-primary children.

1. There was a substantial relationship, .51 ± .06, between initial Binet IQ at the preschool or primary ages and Council percentile. The corresponding correlation with college percentile was .42 ± .06.

2. The correlation between number of years attendance in the University of Iowa schools (including preschool, elementary school, and high school) was .43 ± .07 for the Council test and .40 ± .07 for the college examination.

3. Multiple correlations combining initial IQ and number of years attendance yielded values of .65 ± .05 with the Council test and .60 ± .05 with the college examination. These figures represent the predictive value of early intelligence tests over a period of ten to thirteen years, when school environment is taken into account.

4. Long attendance children (six or more years in the University schools) consistently made significantly higher scores than short attendance children (one to five years) of equal initial ability.

5. Preschool children of long attendance and of average or superior initial intelligence made scores as high as other children of very superior initial intelligence. Nonpreschool-primary children of average or superior initial intelligence, even when having long attendance, made scores lower than other children of very superior initial intelligence.

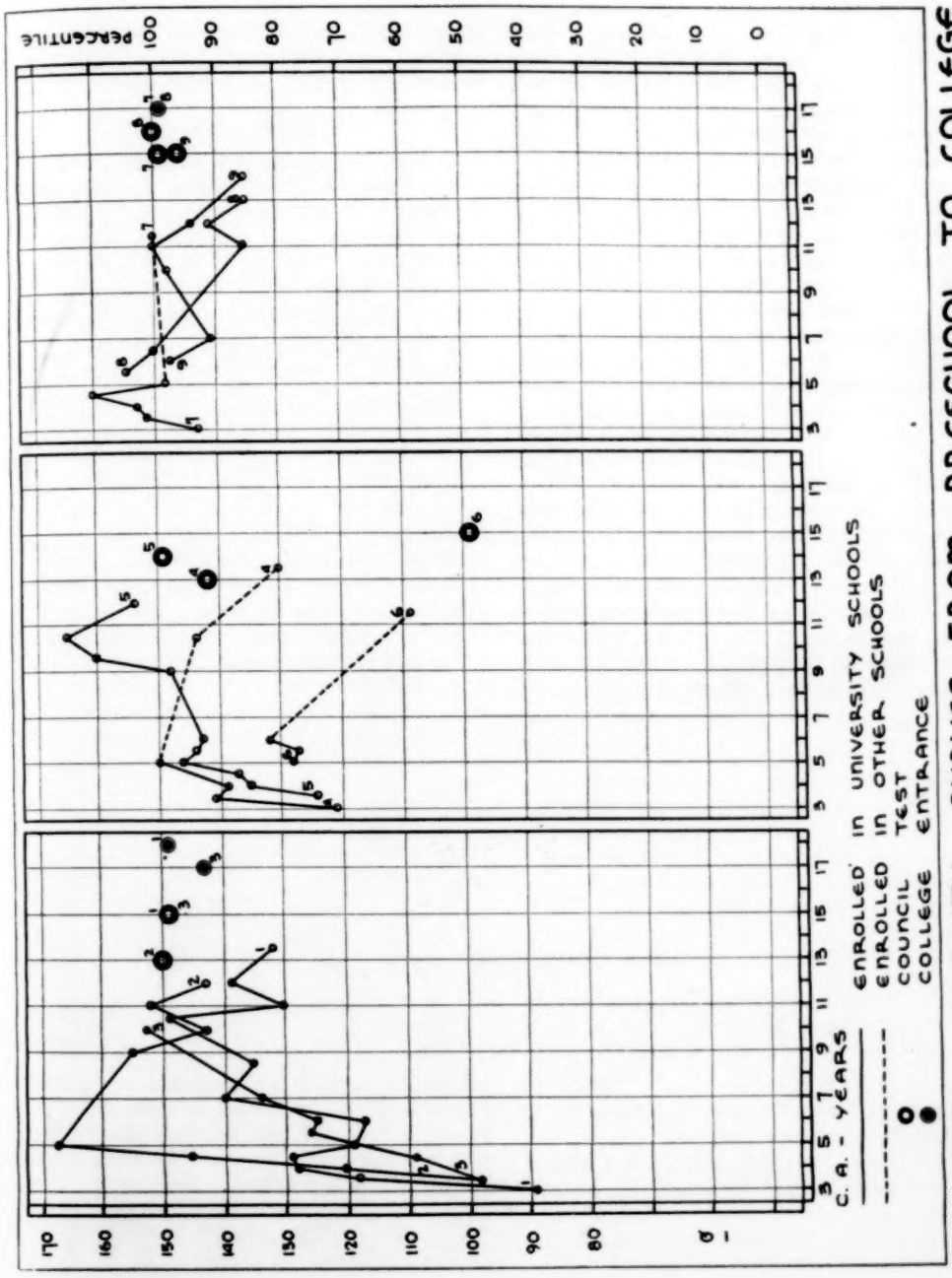
6. Preschool children were matched with nonpreschool-primary children on initial IQ and years attendance after preschool. The preschool children made higher scores on both Council and college examinations. The ratios were 1.7 and 1.9, or 96 and 97 chances in 100 of true superiority. When matched on IQ at the end of preschool and attendance thereafter, the differences tended to disappear. These results indicate that preschool attendance permanently affected mental ability, resulting in higher scores at high school and college ages. While the University schools after preschool stimulated mental growth, they did not overcome the advantage gained during the preschool years.

7. While the number of cases was small, the results were internally consistent for subgroups. They indicate that the gains in IQ associated with preschool attendance and with attendance in the University schools after preschool were meaningful in terms of later development.

8. Individual growth curves derived from repeated Binet examinations from three years to fourteen years of age showed extreme changes in several cases. Curves for three children changing from 98 to 167, 98 to 153, and 89 to 149 IQ are presented, together with three growth curves for children initially testing very superior and three for children initially testing at the "genius" level. Percentiles on Council and college tests verified the changes.

Implication of the Results

Our results show that even when children are making tremendous changes in IQ, the changes are lawful and predictable. In the particular group studied here, individual dif-



INDIVIDUAL GROWTH CURVES FROM PRESCHOOL TO COLLEGE

FIGURE 3

ferences in growth can be in large part accounted for by differences in educational environment. Results not presented here in full substantiate the long-established notion that under more ordinary circumstances groups make little change in mean IQ. They differ from such long-established notions in showing that the customary lack of change is not an inherent characteristic of the organism but due in large measure to conditions to which the children have been subjected.

The bearing on theories of intelligence becomes clear. Any theory of intelligence which does not allow for the possibility, but not necessarily the fact, of extreme flexibility during the childhood period must be considered incomplete and indeed definitely misleading. Intelligence must be viewed in functional terms. The burden of proof is on those who claim a capacity which cannot reveal itself in function.

Socially, the results have far-reaching implications. It is my belief, from intimate contact with the children of this study, that extreme change in intelligence can be brought about without damage to other aspects of development. In fact, such changes appear to be beneficial to the "whole" child, his educational achievements, his personality characteristics, interests, outlook on life, and his contribution to society. In a wider social sense, results such as these may even eventually lead us to the concluson that, as a race, we are intellectually undernourished.

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MENTAL-PHYSICAL RELATIONSHIPS DURING THE PRESCHOOL PERIOD

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The present report is based upon mental and anthropometric measurements for 127 boys and 125 girls who received seriatim examinations between the ages of twenty-one months and seven years. The children constitute a representative subsample of all born in Berkeley, California in the period January 1928 to June 1929. The mental tests were given by trained examiners (principally Miss Lucile Allen and Mr. G. V. Sheviakov), and the physical measurements by pediatrists (principally Dr. H. R. Stolz and Dr. Charles C. Stevenson), at the Institute of Child Welfare of the University of California. The testing schedule involved the administration of the California Preschool Mental Scale (4) at 21 months, 3 years, 3½ years, 4 years, and 5 years; the Stanford-Binet intelligence test was given at 6 and at 7 years.[2] The following tabulation indicates the range of ages of the children tested at each age-level; the total number of cases examined varies from 207 to 224 (temporary or permanent removal of the family from Berkeley was the most common cause of missed examinations). On each occasion, a physical examination was made on the same day that the mental test was administered. In the case of one-half the group, additional tests with the California Preschool Scale were given at 2 years and at 2½ years, but without a physical examination. All the measurements were made in connection with a guidance program directed by Dr. Jean Walker Macfarlane (7).

Age Level, Months	Age Range, Months	Number	Per cent of Cases Tested Within One Month of Birthdate
21	20.0 to 22	219	95
24	22.5 to 25	113	72
30	25.5 to 33	114	77
36	33.5 to 39	224	76
48	45.5 to 51	208	80
60	57.5 to 66	209	81
72	66.5 to 78	214	86
84	78.5 to 90	207	88

The data have been analyzed to show (1) the relation between status in mental development and status in height and weight; and (2) the relation between changes in mental development and concomitant changes in height and weight. The effect of socio-economic factors has also been studied. It is believed that the results fill the gap mentioned by Paterson (8) in his comprehensive review of the literature dealing with mental-physical relations:

> "In the early years of life, physical growth and mental growth are presumably proceeding at their maximum acceleration. For this reason and in order to close this gap in our knowledge, it is imperative that investigations, similar to those reviewed in this book, should be undertaken at the preschool level." (8, p. 279–280)

In a subsequent analysis of physical-mental relationships, Jones (5) has given the following summarizing statement of findings for older subjects:

> "In general, desirable physical characteristics are positively correlated with desirable mental characteristics . . . . But the correlations are too low to be of value in prediction or as an aid in the practical problem of classification . . . . (5, p. 162) [The correlation between any one measure of physical size (age constant) and any one measure of mental status is usually below .30 and quite commonly between .10 and .20.]"

[1] Acknowledgments are due to WPA Project No. 4428 for clerical and statistical assistance, and to the Laura Spelman Memorial and the Rockefeller Foundation for research subventions. We are indebted to Dr. Herbert S. Conrad for criticism of the manuscript.

[2] In the case of the California Preschool Scale, raw scores were transmuted into sigma or so-called "standard" scores; each child's standard score was computed from the mean and standard deviation of scores for his age, correct to the half month. The IQ's obtained from the Stanford–Binet at six and seven years were similarly transformed into sigma values.

The further suggestion was made:

"Our next stage of research must place its emphasis not in mass correlations but in individual growth studies, pursued intensively and with particular attention to concomitant changes in curves which express physiological functions, physical growth, and mental functions." (5, p. 162)

An important consideration is the consistency of growth in height, weight, and mental test performance during this age period. If growth in these measures involves periodicity, irregularity, or divergent trends, we would be led to expect age changes in the intercorrelation of variables. In the case of both height and weight, growth is regular and children tend to maintain their relative positions. The correlation between height at twenty-one months and at five years is .80; over this same age-range the correlation for weight is .78. In the case of mental test performance, however, this coefficient falls to .40 (± .06). Assuming that such a result is in part attributable to differential rates of mental growth, it is reasonable to inquire concerning the effects of such differential factors upon mental-physical relationships.

Results

The correlations between height and mental test scores at successive ages are given in Table 1. Coefficients are extremely low, ranging from .07 at three years to .21 at seven years for the girls (average $r = .14$); and from .02 at three years to .18 at seven years for the boys (average $r = .14$). There is no definite evidence of age trends. The slight increase in coefficients from three to seven years is at least in part attributable to increase in the reliability of the test.[3] The relationship for both boys and girls is positive at every age level and is in agreement with the findings commonly reported for older subjects (6).

The relation of weight to mental test performance tends to be positive but is not as high as that found in the case of height. The correlations between weight and mental test scores range from —.09 to .20 for the boys (average $r = .08$), and from —.04 to .12 for the girls (average $r = .06$). (Table 1)

Correlations between changes in height and weight and changes in mental test scores are given in the following tabulation:

Interval Between Examinations	Correlation Height	Weight
21 Months to 3 Years	.04	.07
21 Months to 4 Years	.13	.12
21 Months to 5 Years	.14	.13
21 Months to 6 Years	.14	.16
21 Months to 7 Years	.17 ± .05	.15 ± .05

It will be seen that there is some tendency for children making an above-average gain in intelligence test score to make an associated above-average gain in height and weight. The correlation between gains in intelligence and gains in height is .17 for the period between twenty-one months and seven years; the cor-

[3] The reliability of the California Preschool Scale has been reported by Bayley (1) as ranging from .83 at 21 months to .95 at 5 years, (Split-half, using the Spearman–Brown correction).

Table 1

Height and Weight in Relation to Mental Test Performance

Age Group	Boys Number	Boys r	Girls Number	Girls r	Total r
		Height			
21 months	105	.11	107	.17	.14
3 years	111	.02	112	.07	.05
4 years	103	.11	105	.16	.13
5 years	101	.16	108	.12	.14
6 years	102	.15	112	.14	.15
7 years	101	.18 ± .07	106	.21 ± .06	.19 ± .05
Mean	104	.14	108	.14	.13
		Weight			
21 months	111	.05	108	.06	.05
3 years	112	—.09	112	—.04	—.06
4 years	102	—.03	105	.05	.01
5 years	101	.15	108	.08	.12
6 years	102	.17	112	.09	.12
7 years	101	.20 ± .06	106	.12 ± .06	.16 ± .05
Mean	105	.08	109	.06	.07

responding coefficient for gains in intelligence and gains in weight is .15. When these correlations are corrected for attenuation (9), they average .01 points higher.

Previous studies have dealt primarily with the relationship of physical and mental status at a given time. Here we have evidence of a similar (small) degree of relationship between physical and mental growth in the preschool period. It is not at once apparent whether this is chiefly attributable to the beneficial effects of a superior environment promoting both aspects of development, or whether it reflects some fundamental communality in maturational factors. For preliminary evidence on this point, we may turn to the growth data for individual children. From the total group, eight children were selected as showing the most conspicuous increases in mental test scores. Three of these (cases 801, 359, and 334, Figure 1) exhibit a concomitant gain in height and weight.[4] Case 380 shows some degree of concomitance, with, however, an inverse change between six and seven years. The remaining four cases having marked gains in mental sigma scores are shown in Figure 2; these display an inverse relationship between mental and physical growth (cases 317, 753, and 742) or no relation (case 355).

Included on each chart is a statement of the family socio-economic index, which is based upon a composite social rating, family income, occupation of father, and mid-parent education.[5] The range of socio-economic indices for this sample is from 3 to 18, with a mode of 10 (based on a survey conducted at the beginning of the study, in 1928–1929).

A similar procedure was followed in picking out the eight cases which have the most marked decrements in intelligence. Figure 3 shows, for three of these cases (783, 527, 605), concomitant decline in the sigma scores for mental and physical measures. Less consistent correspondence occurs in the case of 621. Figure 4 shows, for two cases (539, 714), a fairly definite inverse relation between mental and physical curves; whereas no systematic relationship is exhibited in cases 467 and 650. The charts showing inverse relation between the mental test performance and weight have an increased significance in view of the positive relationship found for the group as a whole.

Of the sixteen cases with the most marked upward or downward trends in mental test scores, six show a clearly positive correspondence in the trends for physical measures. Such agreement, based upon cumulated measurements, can hardly be a chance phenomenon; it must rest upon common factors (possibly different groups of common factors in the case of different individuals). That these factors are not necessarily dominant in mental growth is shown by the cases which exhibit no relation or an actually inverse relation between mental and physical growth. It must be pointed out, also, that while this study has demonstrated for the mass data a small positive relationship between these variables, and for certain individuals a very striking relationship, we do not here present evidence which would define or explain the relationship. As a step in this direction it will be of interest to consider the data on socio-economic status. A subsequent study will consider the problem in relation to data from medical examinations and from illness records.

Among the sixteen cases presented in graphic form, socio-economic indices tend to be distinctly higher for those with rising than for those with decreasing mental sigma scores. If we turn to the correlational results for the total group, we note in the next tabulation that the socio-economic index of the family shows an increasing correlation with the children's mental test scores; another way of expressing this is in terms of the correlation ($r = .30$) between socio-economic index and increments in mental sigma scores from twenty-one months to seven years. Such a result could conceivably be due to a comulative environmental effect. We are by no means assured, however, that this is the sole or even the principal reason for the increasing correlation. A further study of this problem has been recently reported by Bayley and Jones (2).

In the case of height a low constant relationship ($r = .20$) is found with socio-economic status. It is possible that this may be in part due to the existence of natio-racial factors. To some extent we have been able to control such factors by computing correlations between the socio-economic index and the children's height for those of North European descent (excluding thirty-eight children

[4] In order to have comparable measures for graphic presentation, raw scores for intelligence, height, and weight were converted into sigma score values. A child who grows normally and maintains his position in the group with respect to these measures would show parallel horizontal lines.

[5] Derivation of this index and weightings of the component factors are given in (10).

CURVES FOR INDIVIDUAL CHILDREN SHOWING CONCOMITANT GAINS IN HEIGHT, WEIGHT AND MENTAL TEST PERFORMANCE.

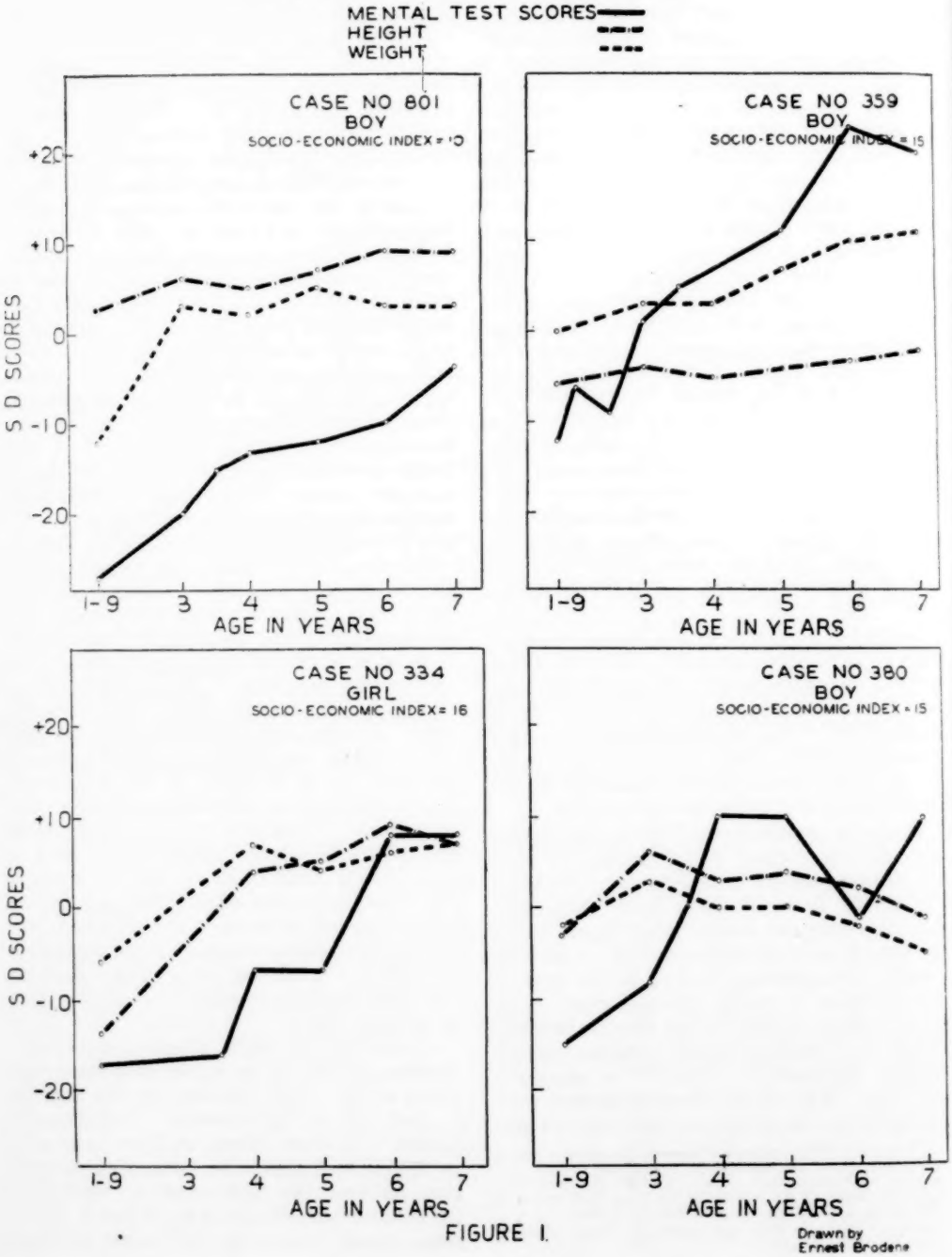

FIGURE 1.

Drawn by Ernest Brodene

CURVES FOR INDIVIDUAL CHILDREN SHOWING AN INVERSE, OR NO RELATION, BETWEEN GAINS IN HEIGHT OR WEIGHT AND GAINS IN MENTAL TEST SCORES.

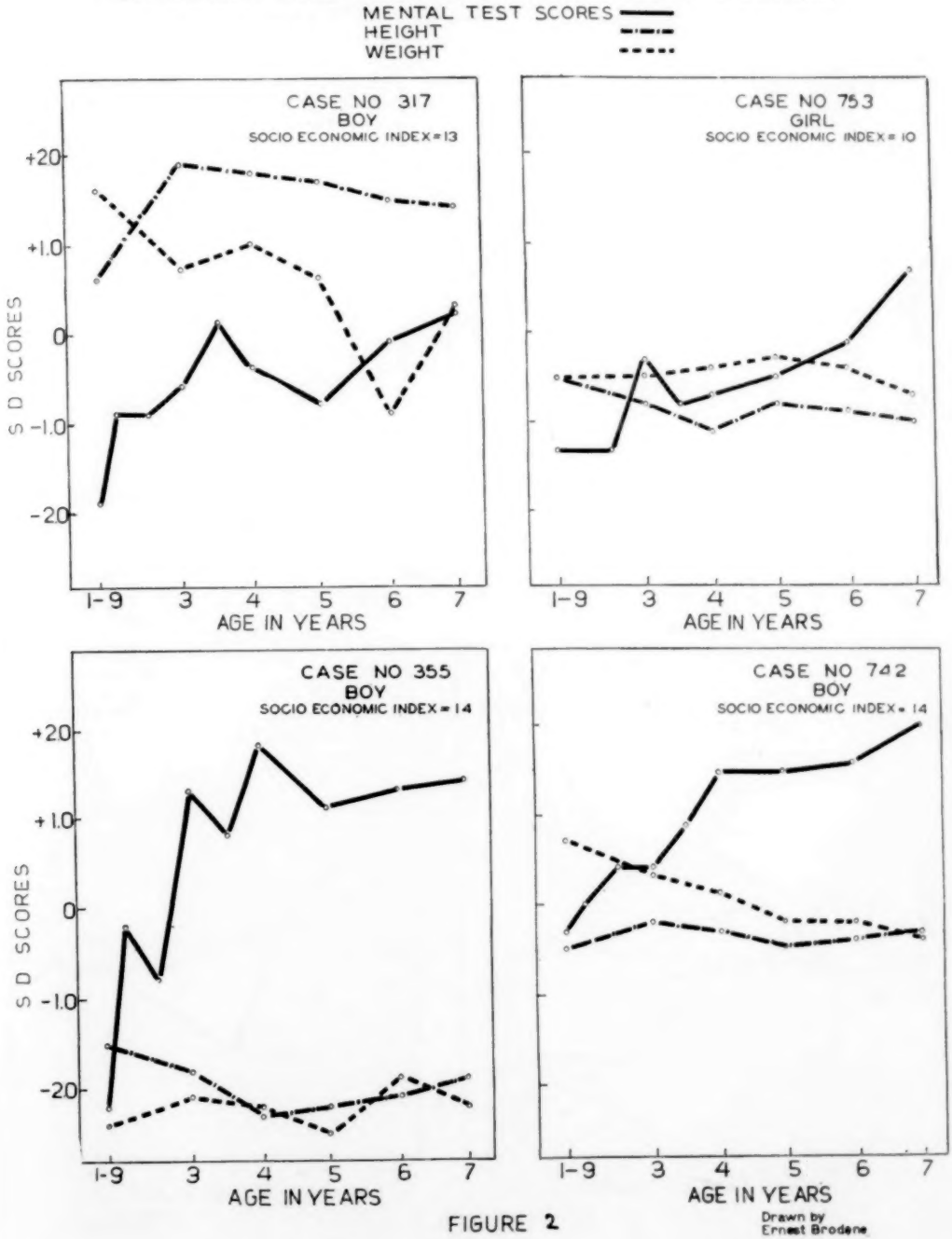

FIGURE 2

Drawn by Ernest Brodene

CURVES FOR INDIVIDUAL CHILDREN SHOWING CONCOMITANT LOSSES IN HEIGHT, WEIGHT AND MENTAL TEST PERFORMANCE IN RELATION TO THE GROUP AVERAGES.

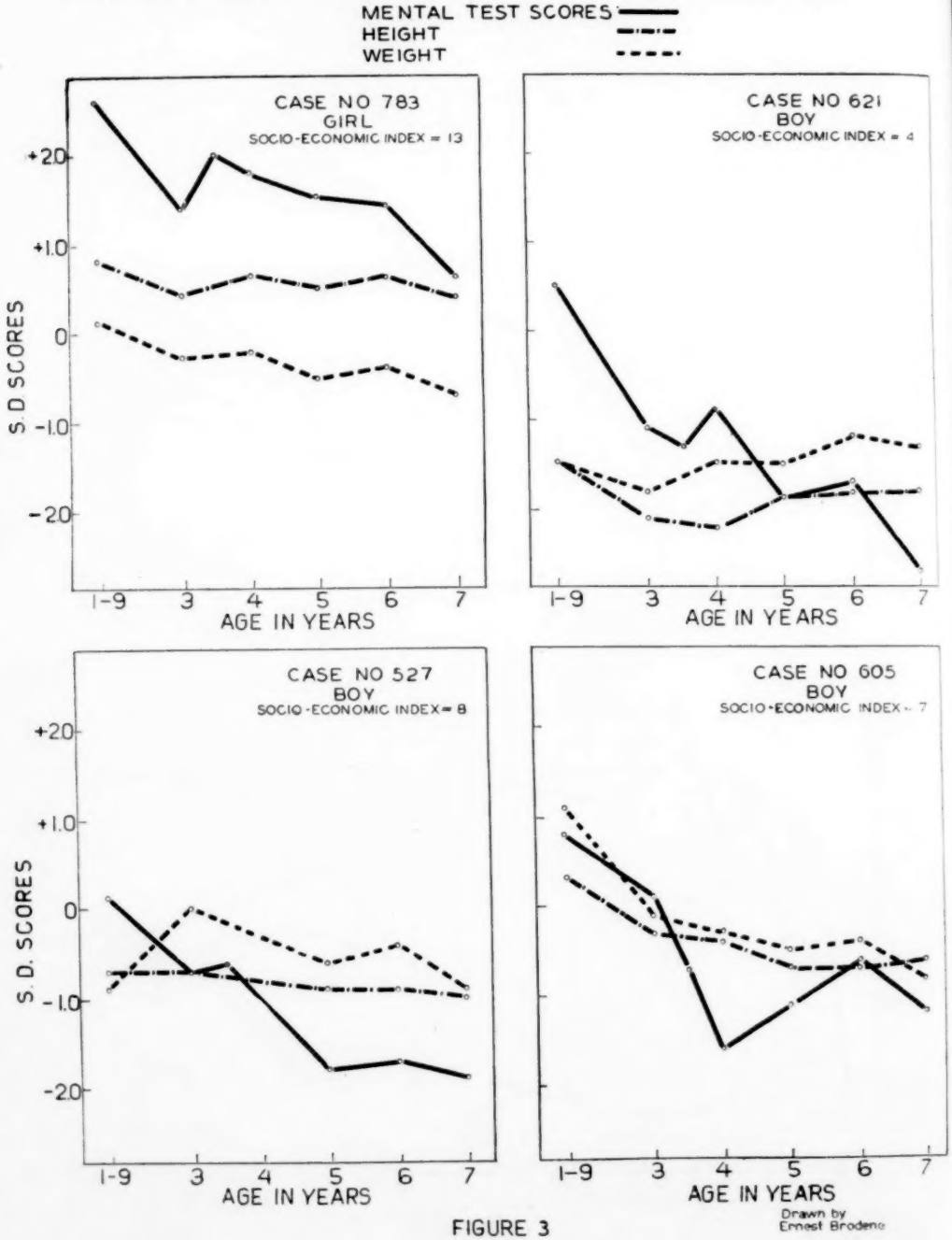

FIGURE 3

CURVES FOR INDIVIDUAL CHILDREN SHOWING AN INVERSE, OR NO RELATION, BETWEEN GAINS IN HEIGHT OR WEIGHT AND GAINS IN MENTAL TEST SCORES

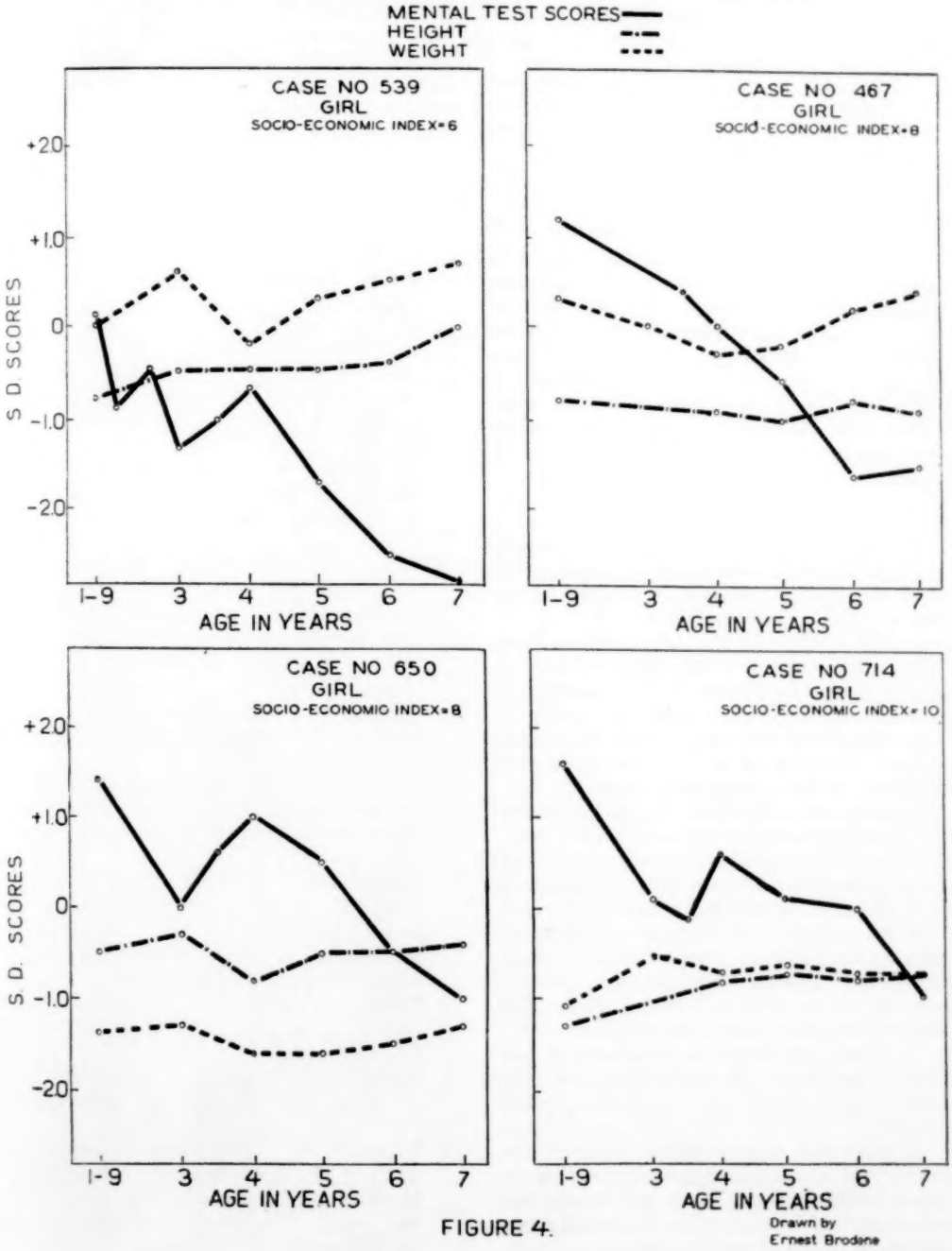

FIGURE 4.

Drawn by
Ernest Brodene

of Italian, Greek, Portugese, and Negro parentage). In the remaining (North European) group the correlation at seven years between mental test performance and height is lowered from .18 to .13 in the case of boys; the correlation for girls is not affected ($r = .20$):

Age	Mental Test Score	Correlation Height	Correlation Weight
21 Months	.04 ± .04	.20 ± .04	.09 ± .04
3 Years	.15 ± .04		
4 Years	.28 ± .04		
5 Years	.38 ± .04		
6 Years	.35 ± .04		
7 Years	.42 ± .04	.20 ± .05	.14 ± .05

If the factor of socio-economic index is partialed out, the relationship between height and mental test performance for the total sample is decreased from .19 to .12; the relationship between gains in height and gains in mental score is decreased from .17 to .16. Thus it would appear that there is some residual relationship between physical measures and mental test performance, independent of the measured factors in the environment.

Summary

1. Seriatim mental test records and physical measurements were obtained for 252 children, beginning at twenty-one months of age and continuing to seven years.

2. The California Preschool Mental Scale was used at twenty-one months, and at 3, 4, and 5 years; the Stanford-Binet intelligence test was administered at 6 and at 7 years.

3. Mental scores (converted into sigma values) show a small positive correlation with height at all ages (average $r = .14$).

4. Correlations between weight and mental scores average .08 for boys and .06 for girls.

5. Gains in mental scores from twenty-one months to seven years correlate .17 with gains in height and .15 with gains in weight.

6. An analysis of individual growth curves reveals a number of cases of striking correspondence between mental and physical growth curves; also cases of no relationship, and of consistent inverse relationship.

7. A socio-economic index shows at successive age levels an increasing correlation with mental scores but not with physical measures.

8. When the socio-economic index is partialed out, a small degree of correlation remains between mental scores and the physical measures, and between gains in mental scores and gains in the physical measures.

We may conclude that in the preschool period, as at later ages, mental and physical superiority are to a slight degree associated. Moreover, above-average increments in mental ability are to a slight degree associated with above-average gains in height and weight. Partial correlations indicate that these relationships are not to be explained wholly in terms of the measured environmental factors.

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AN EXPERIMENTAL STUDY OF THE RELIABILITY OF THE BÜHLER BABY TESTS*

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The various attempts which have been made during the last fifteen years to construct infant scales are evidence of a felt need and a recognition of the importance of reliable tests at this level. Such scales, if reliable, would contribute much toward furnishing a sound basis for predicting future potentialities in the case of early adoption as well as give parents an idea of the mental level of their own infants, thus curbing the undue hopefulness in case of parents with feeble-minded infants. Furthermore, such a scale of tests would furnish a valuable instrument for investigating the influence of early environmental factors upon subsequent development. More specifically, the relationship between such factors as paternal occupation, paternal education or paternal intelligence and infant intelligence; the influence upon infant test scores of a change to a foster home or to an institution; comparisons of infants with low-grade feeble-minded subjects; and other related problems might be more readily attacked. However, the significance of these early tests is as yet somewhat questionable, and many psychologists are inclined to place very little confidence in them as diagnostic instruments because of their unreliability. Not only has it been more difficult to get the co-operation of parents and to secure a sampling of unselected children in the construction of scales for the first few months of life than it has been in the case of older children, but in addition, the variety of stimuli to which infants will respond is far more restricted than is the case with older children. Nevertheless, one of the problems of infant testing that confronts us at the present time is the predictive value of these tests. Since shortly after the first revisions of the Binet tests came out, investigators have been concerned with data on the constancy of test results. While the results of retests at the preschool level show greater irregularity than do the tests at the later age levels, they show in most cases a fair degree of constancy. When it comes to the question of reliability of infant tests, the data are more meager than in the case of preschool children, and the results are neither as clearcut, nor as consistent. Gesell, for instance, has felt that the diagnostic value of infant tests is, on the whole, very favorable. In speaking of his developmental scale and referring to a study of ninety cases, he says, "In fifty per cent of the ninety cases the average absolute divergence was less than five points. In eighty-four per cent of the cases it was less than ten points . . . In sixty-two per cent of ninety cases there was a total range of divergence of less than fifteen points." (9, p. 146) The ratings are based on a scale of developmental quotients with zero as the median value, and are expressed in plus or minus per cent of deviation from this median. Again he says, "Taken as a whole the data indicate a high degree of consistency in the course of early mental growth." (9, p. 148)

Furfey (8), on the other hand, working with the group of infants on whom the Linfert-Hierholzer scale was originally standardized, attempted to answer the question of whether the scales can predict intelligence as that word is used in the sense of the standard intelligence scales with older children. Seventy-one of the 131 separate cases originally tested at 6, 9, and 12 months were located and retested with the Stanford-Binet. The average age at retest was 4 years, 8.2 months. Negative correlations were found between the Linfert-Hierholzer DQ's and the Stanford IQ's as follows: $-.20 \pm .12$ for twenty-eight cases originally tested at 12 months; $-.34 \pm .11$ for twenty-six cases originally tested at 9 months; $-.11 \pm .13$ for twenty-seven cases first tested at 6 months. The coefficient of correlation for the total group of eighty-one cases was $.00 \pm .07$. Furfey con-

* From the Institute of Child Welfare of the University of Minnesota.

cludes that the scale cannot be used to predict intelligence as measured by the Stanford-Binet.

Conger (7) working with the Linfert-Hierholzer scale, covering the first three months, found very little consistency from test to test. For the tests given about two days apart she found a negative correlation at 1 month of —.24 ± .12; at 2 months a positive correlation of .44 ± .11; and at 3 months a positive correlation of .69 ± .07. The split-scale reliability by her arrangement was for the two tests at 1 month .26 and .40 respectively; for the two tests at 2 months .26 and .55; and for the two tests at 3 months .78 and .45. These correlations are much lower than those found by Linfert which were .70, .88, and .88 for 1, 2, and 4 months respectively. Conger also added certain of the Gesell items in the hope of increasing reliability by increasing the length of the scale. The test-retest reliability of the Linfert with the addition of the Gesell items was .30 ± .12 for 1 month; 56 ± .09 for 2 months; and .37 ± .11 for 3 months.

Hallowell (11) reports 142 cases where children were followed from one to four years and had from two to five examinations. She says, "From these 142 retested children it seems therefore that our first judgment of a child, even though he be as young as one year, if made cautiously by well standardized tests, will in at least 95 per cent of the cases be reliable enough to make placement for adoption a safe procedure." (11, p. 263)

Bayley (1) reports a reliability for the first three months of her scale for the first year averaging .62. This was obtained by computing correlations between halves of the test which were made as nearly equal as possible in nature and in difficulty. The average split-scale reliability for the months 4 through 18 is .86 with a range from .75 to .95. From 18 to 36 months inclusive, the split-half coefficients range from .80 to .92. Correlation coefficients of mental scores made on consecutive tests (1 month with 2 months, 2 with 3, etc.) are for the most part high. They range from .55 to .89. Those between alternate tests (1 and 3, 2 and 4, etc.) range from .48 to .87. In order to rule out chance variations in a single test and to make comparisons over a wide age interval, the average of three consecutive tests was used as the score for a given age level (average of three consecutive sigma scores used). There is little relationship between the child's scores in the first three months and those he makes after nine months. Months 1, 2, and 3 correlated with months 10, 11, and 12, give .28; months 1, 2, and 3 correlated with the ratings made in the third year give —.09; months 7, 8, and 9 correlated with the ratings in the third year give .22. Bayley says, "In conclusion, then, we may say that mental growth (using the term 'mental' to cover a series of shifting composites of performance) is very rapid during the first three years of life, and especially so during the first year. But during this early period of most rapid growth, the intelligent behavior which is observable in infants is very unlike the adult behavior which we call intelligent. The mental growth curve obtained in the present study is, then, a composite of a number of maturing functions which are successive rather than parallel; yet they overlap each other, for the most part, so that they are not separable into discrete classifications." (2, p. 81)

Shirley (18) presents data bearing upon the consistency of infant ratings. Her correlations worked out at different age levels between fifteen and eighty-two weeks for different types of development scores (locomotion, manipulation, and vocalization) show low figures. There is little indication of relationship between the rates of development in these three types of behavior. Correlation coefficients of total cumulative developmental scores at four-week intervals from three to forty-nine weeks and from fifty to ninety-four weeks range from .16 to .96 with all except two of the twenty-three coefficients being above .50. Correlation coefficients over wider ranges (3 weeks with 13 weeks; 3 weeks with 25 weeks, etc.) are around zero for the first year.

Shirley's comment upon the inconsistency of the rates of development for the first year is worthy of note: "Inconsistencies in first year development may be attributed to the great speed of development, to the catching up of premature babies and the slowing down of post-mature babies in developmental rate, and to the difficulties in motivating babies and of reducing unfavorable personality traits to a minimum. Finally, it is suggested that it is impossible for the baby to settle down to a consistent rate of development until a sufficient number of traits have emerged to serve as a foundation for future skills. Fixity and

consistency in behavior apparently are end points rather than starting points in behavior development." (18, p. 440–441)

The Bühler tests for infants have received considerable attention in the last few years, though little work has been reported on their reliability. McGraw (15) in her study of white and Negro infants mentions a second examination made on sixteen white and eighteen colored infants one month after the first examination. In regard to the consistency of results she says: "The difference in the DQ attained at the first and at the second examination on these 34 babies varied from 0 to 20. The average difference and the modal difference were in both instances 9. There were, on the whole, 30 test situations presented to each of these 34 infants on two different occasions. A comparison of their successful responses to the same situation reveals that very seldom did an infant fail a test at the second examination which he had passed at the time of the first examination. This fact seems to indicate that the testing of the infants was not restricted to capricious or mere chance reactions." (15, p. 68–69)

Hetzer and Jenschke (12) report retests of twenty-four children 3 to 14 months after the first examination which was at an age of from 3 months to 2 years, 3 months. They state that the "Baby-tests" prove that the earlier diagnoses of normal, retarded, or advanced were unchanged except in two cases.

In *The First Year of Life* (3) Bühler mentions very briefly the results of retesting twenty-five children. Her principal statements follow:

> "*In the case of twenty-five children, who were tested for a second time after a period of from four to twelve months* (in the majority of cases after a period of six months), *the result of the first examination agreed with the result of the second with the exception of two cases.* The retarded child continued on a retarded level, the well-developed child again proved himself such, and the child who was representative of the average of his age showed a D.A. corresponding to his C.A. . . ." [Five cases given as examples] (p. 275)
>
> "There is no case in which the result of retesting directly contradicts our prognosis. . . ." (p. 276)
>
> "It is still to be noted that the absolute extent of retardation or acceleration in the case of one and the same child is by no means a constant quantity. In so far as the observations which we have permit us to judge, an acceleration of one month in the first year of life corresponds to one of three months in the second. In the case of retardations a comparison is not so easily seen. . . ." [Two examples of accelerated development]
>
> "With these figures we have proved that the test prognoses are reliable as concerns the near future of the child. How far this certainty will be determined with respect to longer periods of time will have to be proved by further retesting of these children and by a series of other investigations." (p. 277)

Hubbard[1] (13) using the Infant Scale described in *The First Year of Life* reports a median change from first to second test of 12.4 points DQ. For forty-four cases tested after an average interval of four months, the coefficient of correlation is .70 ± .05. She feels that "the indication seems to be that the Bühler Scale gives fairly reliable ratings; that for prediction for individual children, at least two tests should be made." (13, p. 367)

Method of Procedure

The present experiment is a study of the reliability and predictability of the infant tests worked out under the direction of Dr. Charlotte Bühler and Dr. Hildegard Hetzer in Vienna. Bühler and Hetzer give no data on the reliability of these tests in their "Kleinkindertests." This study was undertaken with the purpose of investigating further the reliability and predictability of these tests over the first year. The items used are those reported for the first two years in the revision published in 1932 (4). Since none of the studies of infant tests reported in the literature include retests where the second test is given on the day following that of the initial test, it seemed well to investigate this phase of reliability. Thus we attempted an answer to the question of whether, under as near similar testing conditions as could be set up, the infants would show consistent behavior or whether their behavior was so transitory and spontaneous that one would get little agreement between the results of the two test periods. Furthermore we wished to find the agreement between tests given at one

[1] Hubbard (13) appeared after the present experiment was complete and uses a somewhat earlier revision.

month and those given to the same children four and eight months later. Retests were made over intervals of several months, rather than at more frequent intervals, as it was felt that there might be some familiarity with the materials or tendency on the part of the mother to "practice" the baby on certain items if the tests were repeated too often. If tests hold up as diagnostic instruments over intervals of time, such as four or eight months, it is to be expected that they would hold up over shorter periods of time, i.e., one or two months. The importance of a reliable infant test as an instrument for research in child development and child placement has already been commented upon. The Bühler tests for the first year are of such a nature that they can be administered with little difficulty under the usual home conditions and it was hoped that they would be found useful as a measuring instrument.

A total of three hundred and eighteen tests, (159 pairs) including the retests, was given to one hundred and fourteen different subjects. These pairs were distributed according to age as follows:

Age Group	Pairs
1 month	27
2 months	11
3 months	15
5 months	15
6 months	16
7 months	19
9 months	15
10 months	8
11 months	13
1st quarter, 2nd year	20
Total	159

Each child was given the same test twice. Only in a very small percentage of the cases were retests not made on the day immediately following that on which the first test was given. These few cases were almost without exception tested with a one-day interval between visits. Twenty-two of the babies tested at one month were tested again at five or six months, and twenty-three of those tested at one month, including the twenty-two just mentioned, were also retested at nine or ten months. It was planned to have a uniform interval between first tests and retests. Some departure from this ideal was necessitated by such factors as illness of the child, illness in the home, absence of the family from town, or confusion created by visitors in the home over vacation periods. Six of the families had moved and one had serious illness when the first set of retests was made. Two of these families had been transferred back into the city by the time the baby was ten months old. The babies in each group were distributed throughout the age range of that group except the one month group where a leeway was made of one week below or above thirty days. As a matter of fact only one child as young as twenty-five days was tested, the average age at the first test being 31.6 days.

With the exception of the children in the two-month group who were tested in an institution, each child was examined in his own home and his accustomed surroundings.[2] In the case of the children in the two-month group this institution was, however, the "home" of the babies, since all their lives had been spent there. The situation for them is essentially no different from that of the babies tested in their permanent homes. This procedure of testing in the home seemed on the whole to have more advantages than the laboratory procedure. While the practice of having subjects brought to the laboratory makes possible a uniform testing room, at the same time the child is out of his usual environment. This situation tends to produce, particularly with the older infants, a feeling of strangeness and perhaps shyness, which can be avoided in a large measure when the tests are made in the home. A trip to the laboratory usually involves extra dressing or removing of wraps which causes fussiness and frequently interferes with the baby's routine, such as feeding and naps. It was felt, too, that the parents would be more willing to have the tests repeated if the examinations were made in the home than if the babies had to be taken elsewhere.

An attempt was made to get the maximum responses from the infant. When the appointment was made, the mother was asked to select a time when the baby, according to his usual routine, was wide awake and feeling at his best. If the baby did happen to be off of his usual schedule and was asleep when the examiner arrived, either another appointment was made or the examiner waited until the baby was awake and in a good humor before beginning the tests. For the most part the retests were given at the same time of day as the first test. The child was iso-

[2] The Salvation Army Women's Home and Hospital.

lated as nearly as possible while being tested. Frequently some suspicious or curious mother felt it necessary to watch the proceedings but the presence of observers other than the mother was discouraged. In the case of the older babies who were shy, the presence of the mother was often desirable. After allowing the child to become accustomed to her, the examiner tried to keep in the background as much as possible except in instances where the test item demanded special contact with the child.

The writer did all of the testing and the recording. No definite order was followed in the presentation of the test materials. The babies could not, of course, be prevented from using the toys in their own way, and if the examiner felt that a test was failed not because the child was incapable of performing it but because of his interest being elsewhere, the test was presented again at a more suitable moment. Items on which the responses were doubtful were also offered again. It required from twenty to forty minutes to complete the tests, depending upon the age of the child and his responses. Most of the babies were tested in their cribs or on the bed. The older children were sometimes put for part of the time into a play pen or a high chair if these were available, the arrangement used being adapted to meet the demands of the test item.

There was one pair of twins in the seven-month group who were premature and a pair of twins in the first quarter of the second year who were also somewhat premature. The other babies were full term according to the birth records and reports of the mothers. Information was also secured from the mothers as to birth weight of the child; the education, the birthplace, and age of the mother and father; the father's occupation; and the number of children in the family. This information was lacking for the institution group and for the younger pair of twins who were adopted children.

The translation of the tests followed the original as closely as possible.[3] There are a few changes in materials and procedure which should be mentioned.

In item 3 for the series for the second month, *responding specifically to four auditory stimuli,* we eliminated the beating on wood, as the procedure was not clear from the directions given.

[3] Bühler and Hetzer (4), p. 25–66.

For item 2 in the test series for the sixth month, *distinguishing between bottle and rubber doll,* we sometimes took the mother's report when it was not possible to arrange a feeding set-up. Some babies used a bottle, some a cup, and others a glass, all of various sizes, shapes, and colors. It was impossible to present the babies with a uniform drinking utensil or to supply each baby with a duplicate of his usual container. In cases where this experiment was not made, the mother was asked if the baby recognized his bottle (or cup). If she felt that he did, she was asked to describe his performance when he saw the bottle or cup.

For item 7 in the series of the eleventh and twelfth months we used a box 3¼ x 3¼ x 3 inches with a cover which was not loose enough to fall off accidentally. Any definite manipulation of the cover with an apparent attempt to take it off was scored as successful. Simply shaking the box was scored as a failure.

The size of the screen used for item 10 in the series for the eleventh and twelfth months was 12½ x 9 inches, the board used in recording being put into service.

In items 1 in the first quarter of the second year and 6 in the second half of the second year, the sticks used were smaller. We used a round stick 6 inches long with a hole through it ½ inch in diameter into which a stick 8 inches long fitted easily.

For the memory experiments, item 7 in the first quarter of the second year, item 7 in the second quarter of the second year, and item 5 in the second half of the second year, and also for item 8 in the first quarter of the second year, *pressing imitatively,* we substituted in place of the ball with the chicken, a dog which when pressed would stick out a red rubber tongue. Since we could not determine what procedure to follow in timing the memory tests, we followed the rule of using at the first presentation of the item the latent interval appearing in the test series corresponding to the child's chronological age. If this item was passed (or failed, in instances where there was a series below) the procedure was repeated later using the interval corresponding to the next group of items above or below as the case might be.

We felt that our material was very similar to that described by Bühler, and that the few changes which were made, either for convenience in carrying, or because we could not

reproduce an exact duplicate, were quite minor ones which did not noticeably alter the results of the tests.

For specific details of the test items and administration of these items, the reader should consult Bühler's original descriptions referred to at the beginning of this article.[4]

In scoring, each item was marked as passed or failed, no part credits being given. Since there are thirty days to a month, in monthly age groups where there were ten items each item received a credit of 3 days, making the total value in days for that test series 30. Thus a child exactly a month old and passing ten items would have developmental quotient of $100 \frac{(10 \times 3)}{30}$. In the test series for the ninth and tenth months and the series for the eleventh and twelfth months there are only ten items for both months combined; consequently for these age groups each item counts 6 days, making a total value of 6 x 10 or 60 for the two months. For the first quarter and for the second quarter of the second year of life each item counts 9 days, and for the second half-year in the second year of life each item counts 18 days. Bühler considered as a lower limit of testing that age group in which a child passed eight or more items and from that she proceeded up the scale to the age group where he passed no more than two items. We considered as a lower limit of testing that age group in which no less than nine items were passed and as the upper limit of testing that series in which no more than one item was passed. Both methods gave approximately the same results. In the case of the age groups where the upper testing limit was not above the test series for the ninth month the raw score was the total number of items credited as passed. (The number of items passed was cumulative. For example, a child passing all items in the series for the fifth month would also be credited as passing all items below the fifth month.) For age groups where the testing extended above the series for the ninth month, the raw score was the total number of items passed below the test series for the ninth month, plus the items passed above the series for the ninth month so weighted that each item above the series for the ninth month counted as 2, 3, or 6 items, according to whether it was valued as 6, 9, or 18 days. In this manner the total raw score multiplied by three would give the developmental age. The developmental quotient corresponds to the intelligence quotient. It was calculated by dividing the developmental age by the chronological age. In our calculations we expressed the developmental age and the chronological age in days.

One should note that the test series for each age group refers to the month of life and not the age of the child in months. Thus the test series for the seventh month does not mean the test series for children who are already seven months of age but the test series for children who are as old as six months and who are no older than six months, twenty-nine days.

Criticism of the Tests

On the whole, the material of the Bühler tests proved to be attractive to the infants and most of the items were reasonably easy to administer. However, some difficulties that have been noted in working with the tests may be pointed out.

In the case of item 6 in the series for the first month, *visual reaction to moving shadow*, it was sometimes difficult to get a shadow to cover up the field of vision of the child. The presentation was of such brief duration that it was often hard to be sure about the infant's response. We usually presented this item several times in the course of an examination in order to give the item a fair trial.

We found little differentiation between the three responses listed in item 3 at the second month level, *responding differentiatingly to auditory stimuli*. We omitted the beating on wood and used the two stimuli of the pitch-pipe and the child's knocker. Some infants cried at the sound of the pitch-pipe but there was no difference in regard to crying between the staccato sound of the pitch-pipe and the pitch-pipe as a continuous sound. Often we had no response to this item. Some of the other items of an auditory nature were not responded to by some of the babies. Among these are: item 1 in the second month, *turning head to nearby noise;* item 2 in the second month, *listening to bell;* item 1 in the third month, *turning head searchingly during sound;* item 5 in the third month, *listening to sound of rattle while lying on stomach*. Some of these items were automatically credited as in the case of the older infants who passed an entire age series above the series which included any of the items just mentioned.

[4] An English translation of the items appeared after the experimental work had been completed: Bühler and Hetzer (5).

However, we felt that in the case of some of the younger babies negative adaptation was an explanation of their failure to respond. Some of the infants slept near the telephone, the doorbell, or the radio and several of the mothers commented upon the fact that their babies were accustomed to these noises.

Item 9 in the series for the fourth month was not satisfactory. The infant is to note the change of putting on a mask by a negative reaction such as frowning, puckering his mouth, or crying; he is to show astonishment; or he is to show a change in motor behavior. The only behavior that was ever noted in our experiments with this item was a more intent looking sometimes after the mask had been put on. We felt that had we not been looking for astonishment, we would not have noted this behavior. No response to this item was such that we could definitely score it as passed.

The first item in the series for the fifth month, *preferring color chart to colorless cardboard*, was a rather subjective item to rate. Item 7 in the series for the sixth month, *reflection of kindly and angry facial expressions*, and item 5 in the series for the ninth and tenth month, *answering gestures*, were sometimes difficult to rate because of their subjectivity.

The memory items seemed almost worthless in most cases. In the first place they were hard to give because the infants wanted to play with the material while the examiner was to perform with it herself; some cried when the material was taken away during the "latent interval"; some had become interested in other material by the time the material was presented again at the end of the "latent interval"; and, furthermore, of those who did examine the box or the rubber dog whose tongue had vanished, some merely felt around and the examiner could not be sure whether these missed the contents or were just exploring. Very few showed anything that could be rated as astonishment or as surprise. One baby did feel in the box, shake her head as if to say "no, no" and look questioningly, but such instances were rare.

The hollow cubes did not appeal to most of the children of the age groups between ten and fifteen months. The examiner could not encourage the children to play with the cubes as long as the five minutes required in the directions. The children soon tired of them and threw them aside. Very few were able to do much in the way of manipulating the blocks.

Item 1 in the series for the second quarter of the second year, *observing spinning top*, was not considered a satisfactory item. The child was to observe a spinning top attentively or with astonishment. The item seemed much too easy for this age group as very young children would observe the top attentively.

Results

The following tabulation shows the means and standard deviations of chronological ages at the time of the first test for the group of subjects used in this experiment.

Age Group	Cases	Age, Days	Standard Deviation
1 month	27	31.55	3.49
2 months	11	76.4	8.80
3 months	15	112.8	6.46
5 months	15	163.9	9.53
6 months	16	196.1	9.80
7 months	19	224.1	10.58
9 months	15	277.4	6.34
10 months	8	310.9	9.62
11 months	13	349.5	6.46
1st quarter, 2nd year	20	401.8	30.70

The next tabulation shows the average raw score for each of the age groups for both the first and the second tests.

Age Group	First Test Score	First Test S.D.	Second Test Score	Second Test S.D.
1 month	13.7	2.62	14.0	2.47
2 months	32.7	6.90	35.3	4.24
3 months	34.2	6.58	35.0	6.05
5 months	62.9	5.79	63.1	5.42
6 months	78.3	8.22	78.4	8.70
7 months	80.0	9.16	81.5	9.15
9 months	104.5	7.60	105.4	7.70
10 months	122.8	4.76	121.4	5.18
11 months	130.2	14.25	134.6	11.96
1st quarter, 2nd year	146.1	16.76	147.0	16.24

These raw scores were calculated so that the development age could be secured by multiplying the raw score by 3. It will be recalled that Bühler gave a credit of 3 days for each item passed below the series for the ninth and tenth months; 6 days for those passed at the ninth and tenth and the eleventh and twelfth series; 9 days for each item in the first quarter of the second year; and 18 days for each item in the last half of the second year. Therefore, the average raw score in some cases is somewhat higher than the average number of items passed. It will be seen that except at three months the aver-

age raw score is considerably more than a third of the average chronological age, given above, indicating that the tests as scored were "to easy" for this group of babies.

Table 1 gives the average developmental quotients found on the first and on the second tests, respectively, for each age group. On the whole, these averages are much the same for the two tests. Since our procedure of testing was slightly different from that suggested by Bühler, we calculated the average developmental quotient according to our scheme and to Bühler's method. Bühler's method was to reach a level where the child passed as many as eight of the ten items and to proceed until he passed no more than two items in the highest group upward from his chronological age. This procedure usually covered five age groups; namely, the group that corresponded to the child's chronological age, the two groups below his chronological age, and the two groups above his chronological age. We used the method (except in the early months where the beginning of the scale was a limit) of continuing until the child passed nine or ten items in the lowest group and one or none in the highest group. A comparison of the last two columns of Table 1 with the following tabulation shows that the two systems of scoring gave little difference in final averages. One may note that the average developmental quotients are higher than one would expect to find. They are higher than the mean developmental quotients which McGraw reports for her white group where she used an earlier form of the same scale. She does, however, find her highest DQ's before the infants are five months old.

TABLE 1

AVERAGE DEVELOPMENTAL QUOTIENTS

Age Group	Mean DQ, 1st Test	S. D.	Mean DQ, 2nd Test	S. D.	Mean of Mean DQ	S. D.
1 month	132.70	31.39	129.14	35.35	130.91	27.54
2 months	128.11	20.81	135.80	15.29	132.0	16.51
3 months	90.89	16.65	92.30	15.86	91.61	15.59
5 months	115.52	10.10	114.65	8.12	115.10	8.56
6 months	119.84	11.74	119.0	13.12	119.40	11.87
7 months	107.58	13.93	108.86	13.79	108.20	13.73
9 and 10 months	114.90	7.43	114.20	6.83	114.60	6.67
11 months	111.70	11.84	114.90	10.70	113.40	10.50
1st quarter, 2nd year	109.70	13.07	109.80	12.84	109.80	12.79

Age Group	Developmental Quotient	Standard Deviation
3 months	93.3	15.6
5 months	115.4	8.4
6 months	119.5	11.8
7 months	108.8	13.5
9 and 10 months	113.0	6.1
11 months	113.0	10.7
1st quarter, 2nd year	110.1	13.3

While our occupational grouping is not entirely a representative sampling of the general population, as the percentage of cases in the two upper groups is higher than in the city at large, it will be seen from Table 2 that there are seventy-five cases in the three upper occupational groups and seventy in the three lower groups.[5] The other fourteen cases which make the total of 159 sets of tests were illegitimate children and were not classified in the occupational ratings. Although Bühler does not feel that her group comes from the lowest level of the population, she does have a large group of institutional children included in her cases, which, on the whole, might rate lower than the average population and she does mention that they were from the poorer sections of Vienna. As Bühler does not give norms for her age groups, we are not able to make a direct comparison with her findings. However, since our institutional group at two months had very high scores, it appears unlikely that a difference in socio-economic status explains the high developmental quotients found for our group of infants.

The reliability of the test was computed by the split-scale method and also by repeating the test on the day succeeding that on which the first test was given. For the split-scale method the odd numbered items (as arranged by Bühler) were correlated with the even numbered items, no attempt being made to

[5] Minnesota Scale for Occupational Classification. See Goodenough, F. L., and Anderson, J. E.: *Experimental Child Study*. New York: Century, 1931. Appendix A.

TABLE 2

COMPARISON OF DEVELOPMENTAL QUOTIENTS BY OCCUPATIONAL GROUPS (AVERAGE OF AVERAGE DQ ON THE TWO SUCCESSIVE DAYS)

Age Group	Occupational Groups					
	Upper Three			Lower Three		
	Number	Mean DQ	S. D.	Number	Mean DQ	S. D.
1 month	14	130.9	24.81	13	131.0	30.5
*3 months	8	99.6	12.41	7	82.5	13.7
5 months	7	115.1	8.6	8	115.1	8.6
6 months	9	120.2	14.41	7	118.4	7.3
7 months	9	109.4	14.81	8	111.5	10.81
9 and 10 months	13	114.7	7.7	10	114.6	5.11
11 months	6	117.5	11.3	7	109.8	8.2
1st quarter, 2nd year	9	109.3	14.0	10	108.0	9.9

*The information on parents for the children in the second months group was incomplete. These were illegitimate children.

pair similar items. While such a pairing would have been ideal, it was impossible to match the items within an age group in this manner. In view of the fact that more similar half-scales would be expected to give higher reliability coefficients for the odd-even items, the higher reliability found in this study by the split-scale method as compared with the test-retest is even more significant. Table 3 gives the rank order coefficients found between the two halves of the scale for each group separately and for both the first and the second administrations of the test. It will be noted that except for the first month the correlations (as raised by the Spearman-Brown formula) are all over .80 and for most of the age groups are over .85. The average of the correlations is .852 for the first test, and .867 for the second. The correlations between raw scores for test and retest are given in Table 4. Table 4 also gives the correlation found between the developmental quotients on the two successive days. For the individual age groups the test-retest correlations are in most cases lower than for the split-half method in spite of an attempt to retest the babies at the same time of day as on the first test and in as nearly the same

TABLE 3

CORRELATION BETWEEN ODD AND EVEN TEST ITEMS

Age Group	Number	Correlation	Probable Error	Spearman-Brown *r*
First Test				
1 month	27	.60	.09	.75
2 months	11	.74	.10	.85
3 months	15	.81	.06	.90
5 months	15	.81	.06	.90
6 months	16	.75	.08	.86
7 months	19	.77	.07	.87
9 and 10 months	23	.86	.04	.92
11 months	13	.83	.06	.91
1st quarter, 2nd year	20	.73	.07	.85
Second Test				
1 month	27	.35	.12	.52
2 months	11	.73	.10	.84
3 months	15	.80	.07	.90
5 months	15	.89	.04	.94
6 months	16	.90	.04	.95
7 months	19	.72	.06	.88
9 and 10 months	23	.82	.05	.90
11 months	13	.88	.05	.94
1st quarter, 2nd year	20	.69	.08	.81

TABLE 4

CORRELATION BETWEEN TEST AND RETEST SCORES AND BETWEEN DEVELOPMENTAL QUOTIENTS

Age Group	Number	Rho	P. E.
Raw Scores			
1 month	27	.61	.09
2 months	11	.81	.08
3 months	15	.74	.08
5 months	15	.68	.10
6 months	16	.71	.09
7 months	19	.94	.02
9 and 10 months	23	.87	.04
11 months	13	.69	.10
1st quarter, 2nd year	20	.93	.02
Developmental Quotients			
1 month	27	.67	.08
2 months	11	.40	.18
3 months	15	.83	.06
5 months	15	.86	.05
6 months	16	.72	.09
7 months	19	.96	.01
9 and 10 months	23	.57	.10
11 months	13	.64	.12
1st quarter, 2nd year	20	.92	.02

conditions as possible. This is in agreement with the findings of Goodenough for preschool children tested with the Kuhlman-Binet Scale. The reliability of the Kuhlman-Binet tests by the split-scale method gave higher coefficients than did that by test-retest. This difference in reliability by the two methods indicates a correlation between errors such as irritability of the baby, state of drowsiness, and general physical condition which are not the same on retests. The test-retest correlations for the entire group of 159 pairs is .826 with a probable error of .017 for the developmental quotients and .815 with a probable error of .018 for the raw scores with age partialled out. The correlation of the first test with age was .98± .003 and for the second test it was .99 ± .003.

While the tests are not as stable from day to day as one would desire, an average of two consecutive tests should give a fair indication of the performance ability of the child at a particular age level. The average DQ of the two successive tests for the first month was correlated with the average DQ for the two successive tests at five or six months and at nine and ten months. The rank order correlations are given below:

	Developmental Quotients	
Age Groups	Rho	P.E.
1 month with 5 and 6 months	.288	.138
1 month with 9 and 10 months	.345	.130
5 and 6 months with 9 and 10 months	.448	.121

Very little stability is found between the retests at five and six months or at nine and ten months and the tests made at one month. The retests at nine and ten months show only moderate correlation with those at five and six months. It seems that while the tests may be used as reasonably reliable measures of the standing of an individual within a definite age group, they cannot be relied upon as measures of prediction during the first year of life. Bayley (2, p. 47) found little relationship between average sigma scores at one, two, and three months and those at ten, eleven, and twelve months. There was some tendency for sigma scores to become more stable as the children grew older. Shirley (18, p. 465) reports positive and fairly high coefficients between cumulative developmental scores for adjacent four-week intervals, but when she compares more widely separated ages, they are around zero for the first year, many of them being negative. For the second year they are, with one exception, .60 or over. Shirley says in summary:

"Fluctuations in the level of ability seem to characterize the behavior of babies during the first year. At about 18 months the babies begin to hold their places in the group with considerable consistency."

Table 5 gives a comparison of the average developmental quotients of the boys with those of the girls. While our groups are too small to show any conclusive evidence in regard to sex differences, at all of the ages except eleven months the boys are slightly ahead of the girls. This is not in keeping with the general findings in the literature which usually place the girls ahead of the boys in development. However, the results from infant tests in this respect are not as clear as is the case with the older children, where verbalization plays a part. McGraw (15, p. 73), using an earlier and slightly different form of the Bühler tests from that used here, found an average developmental quotient for her group of white boys of 103 and for her white girls

TABLE 5

COMPARISON OF AVERAGE DQ OF BOYS WITH AVERAGE DQ OF GIRLS*

	Boys			Girls			Total Group		
Age Group	Number	DQ	S. D.	Number	DQ	S. D.	Number	DQ	S. D.
1 month	17	136.1	27.9	10	122.1	27.0	27	130.9	27.5
2 months	6	133.3	7.0	5	130.5	23.2	11	132.0	16.5
3 months	8	92.1	16.9	7	91.0	14.4	15	91.6	15.6
5 months	6	118.9	7.9	9	112.6	8.0	15	115.1	8.6
6 months	11	119.7	12.9	5	118.7	9.3	16	119.4	11.9
7 months	12	111.4	13.1	5	107.9	12.1	17	110.4	12.9
9 and 10 months	15	115.7	7.2	8	112.5	4.9	23	114.6	6.7
11 months	7	110.8	7.6	6	116.4	12.4	13	113.4	10.5
1st quarter, 2nd year	8	111.1	14.9	12	108.9	11.1	20	109.8	12.8

*Average of the average DQ on the two successive tests.

of 105. For the colored group the average DQ of the girls was 92 and of the boys 91. Bayley (2, p. 63) does have some evidence that boys are ahead on the sensori-motor tests of early infancy. In speaking of sex differences she makes a statement as follows: "Since the boys had slightly higher scores throughout the first eight months in the total cumulative point scores and the early tests were predominantly sensori-motor, some sex differences might be looked for on the basis of this division." The division mentioned is that of sensori-motor. For this grouping into sensori-motor items she did find that the boys had consistently higher scores than the girls had, but the differences were small and, as she felt, might be due to chance.

The average developmental quotients for the three upper and for the three lower occupational groups are found in Table 2. The classification is according to the Minnesota Occupational Scale. It will be seen that the three upper groups are ahead of the lower groups in five cases, are the same in one case, and are lower in two cases. The difference except at three and eleven months is small and the number of cases is not large enough to generalize upon. It would seem to support findings that there is not as much relationship between scores of infants and occupations of father as is the case with older children. For their group of infants between one and twelve months of age, Linfert and Hierholzer (14) found a correlation of .06 between score and rating on the Chapman-Sims Scale. Part of this same group was retested about four years later with the Stanford-Binet. The correlation between the intelligence quotient gains (net change from the Linfert-Hierholzer developmental quotient to the Stanford intelligence quotient) and the Chapman-Sims ratings was .30 (8). Ripin (17) found no differences in development for a group of Hebrew infants tested in a home for Hebrew infants as compared with a group of low socio-economic status of the same social background when the groups were below six months of age. She did find a marked difference increasing with age from seven months on in favor of the private home group. Goodenough (10) in a study of three hundred and eighty children between the ages of 18 and 54 months, found intellectual differences in occupational classes well established by the age of two years. It may be either that the tests are not refined enough to detect marked differences in infants or that, as environment has a chance to work, the influence of social class becomes more marked.

An attempt was made to check on the objectivity of the scoring by having a graduate student observe the examiner give the tests and rate the children at the same time as the examiner but independently. Only eleven cases ranging in age from forty to eighty-seven days were secured for scoring in this manner. The rank order correlation between the raw scores of the two judges with age held constant is .968 $\pm$ .013. While the scoring appeared on the surface to be subjective in places, the correlation found between examiners' ratings indicate that there was consistency and uniformity in the scoring procedure from baby to baby.

Practical Implications

These data show little consistency between first tests on the Bühler items and retests made after an interval of several months. A knowledge of score earned on these tests during the first year of life is of little service in predicting future development. Several factors must be considered before we can evaluate the importance of this lack of predictive value. In the first place, items which have been standardized upon one group are not always applicable to groups differing in type from that upon which the standardization was made. In this study we are using tests standardized upon Vienese babies and applying them to American-born infants. We would expect any factors making for differences between these two groups to be of less significance in the case of these young infants than would be the case with older subjects. However, the tests are not truly representative of Vienese infants in general. Bühler mentions in the "Kleinkindertests" that the subjects were from the poorer districts of Vienna. In her preliminary work with the tests she has stated earlier in *The First Year of Life* that 60 per cent of the cases consisted of "institution" children and 40 per cent of children from private homes (3, p. 5). In the same volume she states "It was impossible to test an equally large number of children from better environments because procuring children from private families met with great difficulties in spite of the kindest cooperation on the part of some parents." (3, p. 256)

Evidence points to the fact that we are at present unable to determine accurately from our infant tests during the first year the baby's probable standing in the future or even make an approximation of his future standing with anything like the precision that preschool and school measures show. Let us consider some of the factors involved in making measurements on infants. First, the emotional stability of the infant differs from that of an older child. The baby is more frequently irritable and more subject to drowsiness. He fatigues easily and can be "tested" for only a relatively short time. He is less accustomed to strangers than is the older child. His attention must be gained "on the fly" or by the appeal of the testing material itself since he does not know how to co-operate, and any effort that he puts forth is dependent upon the material before him and upon his general state of well-being rather than upon verbal encouragement or praise. Proper motivation may depend to some degree upon the skill of the examiner but, no doubt, much of it depends upon the physical condition of the child. One finds that he must not only use his skill and ingenuity in handling the infant but must also strive to test under conditions which are as favorable to him as possible. For example, Conger's results indicate that it is perhaps undesirable to test just after feeding, the median correlation between test score and amount of time elapsed between the last feeding being +.26. However, for her group there appeared to be little relation between the behavior of the infant previous to the test and his test performance when average scores were calculated for the three conditions of behavior noted when the infant was taken up for testing: awake and quiet, asleep, or fussy. A study of the behavior during the test showed a tendency for the infants rated as "good" to score higher than those rated as "fussy."

It is presumed that keenness of observation, patience, skillful planning, and ability to handle the baby successfully would make for a successful examination. We are, however, handicapped in attempts to devise items for infant tests—more so than is the case with older children because the range of things that the baby can do and the relatively few stimuli to which he responds are limitations. Our observation of the way he reacts to the people about him, to his playthings and to the environment around him is a somewhat subjective interpretation of his behavior but it is the best we have. While the items must necessarily be subjective, at the same time they must be of such a nature that the reactions which they call forth in the baby can be differentiated well enough to enable one to make a judgment.

Postmaturity and prematurity probably have considerable influence upon the general development of the infant, at least during the first few months. One may speculate as to whether by the end of the first year the premature infant has "caught up" with full-term infants in respect to mental processes.

The rapid development and the appearance of many new types of behavior during the early months as compared to the relatively slower growth of the older children are causes for inconsistencies in ratings. Probably we are measuring different types of behavior at different age levels. The sensori-motor items which make up the body of tests under one year of age are, no doubt, forerunners of later development but whether they measure the same thing as is measured by the later tests where verbalization plays a part is somewhat doubtful. The relationship between sensori-motor tests and verbal tests of intelligence is low for adults.

"Change-of-rate" factors may very well be a possible cause for the inconsistency of infant ratings and ratings made a few years later. It is reasonable to assume, though by no means proven, that mental growth proceeds in much the same manner as physical growth. It is possible that in mental development there are periods of rapid growth alternating with periods of little or no growth.

When we consider the factors that may cause inconstancy in test ratings, we wonder that ratings vary no more than they do. We must avoid the feeling that once we have tested a child with a standard intelligence test we have the matter settled and can put a label of intelligence upon him in the same way that we label him with his name. On the other hand, we recognize that if we had unlimited facilities and resources with which to work and should deliberately set out to change a group of IQ's by means other than coaching we would, in our present state of knowledge, be unable to go about it in more than a trial-and-error fashion. Especially may we question the ratings on infant tests.

Why should we expect these tests to be indicative of later ability when we are not measuring the same type of performance? Although there is evidence that retardation in walking is frequently found in subjects who are mentally retarded also, the correlations usually reported are rather low. Murphy (16) reports correlations between age of walking and intelligence of $-.19 \pm .035$ for a group of 350 normal subjects and $-.25 \pm .04$ for a group of 254 feeble-minded subjects. In the case of adults sensori-motor and mechanical tests correlate rather low with verbal tests. Burks and Kelly (6) have pointed out that verbal and nonverbal tests seldom correlate with one another higher than .60 or .70. In the case of infant tests we may very well ask ourselves in the words of Terman "Are we justified in attributing real diagnostic significance to the little intellectual 'stunts' called for by the intelligence scale" keeping in mind that in the case of infants the problem is complicated still further by our inability to label the "stunts" as intellectual. Few, if any, would question that from the standpoint of scientific interest and research infant tests have made a contribution. Such tests have led to a better understanding of infant behavior and have stimulated much research dealing with infant growth and development. However, from the standpoint of practical application of infant tests for purposes of adoption—a goal which many have hoped might be reached—we are forced to conclude in the light of the evidence available that they are, in their present form, of doubtful value for predictive purposes.

Summary

1. The baby tests for the first two years worked out by Dr. Charlotte Bühler and her coworkers in Vienna were given to 114 different infants distributed in various age groupings between one and fifteen months. The entire scale for the two years included a total of 130 different items. A total of 318 different tests (159 pairs) was given. Each child was retested on the day succeeding that on which his first test was given. Twenty-two of the children first tested at one month of age were retested at five and six months and twenty-three of those first tested at one month were also retested at nine and ten months.

2. The reliability of the tests was calculated by the split-scale method and by retests. The average split-scale reliability was .85 for the first test and .87 for the second test. The reliability between test and retest was somewhat lower, being .78 for raw scores and .73 for developmental quotients.

3. Such factors as sex, occupational level, and methods of scoring were considered in regard to their influence upon scores. No consistent differences were found in respect to occupational level. The boys tended to score higher on these tests than did the girls.

4. Age seemed to be the most important factor influencing the test scores. The correlation between raw score and age was .98 for the first test and .99 for the second test.

5. For this group of American babies, the Bühler tests gave scores that were too high for the age group in which they were placed. This is shown by the high developmental quotients.

6. Though the tests seemed to indicate a fair degree of reliability over a limited time interval, there was little consistency between scores over a period of several months. For these infant tests, as for most of the infant tests so far reported, the predictive value for a long period of time is slight.

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CHILDREN'S SOCIAL ADJUSTMENTS IN NURSERY SCHOOL[1]

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This study deals with the effect of nursery school experience on children's social behavior and social adjustments. One of the main claims that has been made for nursery school education is that it promotes the child's social development. Several studies, some of them somewhat informal, have tended to corroborate this claim. In a recent quite extensive study by Hattwick (4), the quantitative findings indicate that the children who had attended nursery school for some time, as compared with children who had just entered, showed less fear of strange people, less tendency to shrink from notice, less tendency to stay close to adults or to avoid play with other children. These influences, according to Hattwick (4), seem to occur "over and above the improvement which would naturally come with age."

Other studies have shown somewhat similar trends. The effects that have been noted, however, have not all taken the form of increased amiability and co-operation. In a study by Caille (1), it was found that there was a positive correlation between resistance to other children and length of stay in the nursery school. A study by Ezekiel (2) suggests that there is an increase in egocentricity —defined as "attempts to make oneself the center of an activity"—with stay in the nursery school.

In a study by Jersild and Markey (6), it was found that there was an increase in the number of children's fights and quarrels with nursery school attendance. This increase in conflicts did not, however, seem to be due primarily to an increase in sheer combativeness; it came more as a by-product of an increase in the children's activities and social contacts.

On the one hand, studies of the effect of nursery school experience have shown an increase in social participation and a decrease in the solitary and onlooker forms of behavior. On the other hand, the findings also show an increase in independence of others and an increase in self-assertion. In other words, as far as quantitative findings go at present—and they are admittedly rather meager—nursery schools tend to accomplish the rare achievement of promoting the child's sociability and at the same time fostering his individuality and independence in a social group.

The present study was designed as a further exploration of the effects of nursery school attendance. The inquiry had a twofold purpose: first, to discover such quantitative trends as might emerge from the study of the limited number of children included in the investigation; second, and more important, to go behind the averages and correlations to appraise the adjustments of individual children. The latter line of study followed, in some respects, the fruitful lead of Murphy's study of sympathy in early childhood (8) (9) and of a study by Fite, now in progress, dealing with preschool children's aggressiveness, attitudes toward aggressiveness, and children's verbalizations regarding rules of conduct as compared with their actual behavior.

SUBJECTS

The subjects included eighteen children, representing all the regularly enrolled members of a nursery school group. In addition, records were obtained of the behavior of a number of other children who were irregular in attendance or who were members of an older group that used a part of the playground occupied by the subjects of this study.

At the beginning of the investigation, the subjects ranged in age from 2 years, 10 months, to 3 years, 11 months. The average age was 3 years, 5 months.

The eighteen subjects included nine children who, during the preceding year, had been members of nursery school groups housed in

[1] This report is based upon a larger, unpublished study of which Mary D. Fite is the senior author (3). With minor changes, this report reproduces a paper presented by the writer at the meeting of the American Association of Professional and Applied Psychologists at Minneapolis, September, 1937.

the same building. All of these nine had old friends and acquaintances among the children in the study. The subjects also included nine children who were entirely new to each other and to the group. Seven of these had never previously attended nursery school; the remaining two had attended separate nursery schools the year before, but were strangers to each other and all the rest.

Procedure

The main procedure in the study was direct observation. In the fall, as early as possible, each of the eighteen children was observed during ten fifteen-minute intervals, representing two and one-half hours devoted to each child, and a total of forty-five hours of systematic observation of the group as a whole, apart from further periods of informal observation. In addition, use was made of case records of individual children, teachers' reports, and other data that were available from other studies of the same children.

In the spring, two of the original eighteen children were not available. Each of the sixteen who remained was observed during eight five-minute periods.

The observational records were made in the form of a running, diary account[2], similar to the procedure followed in earlier studies by Jersild and Markey (6) (7).

Results

One form of treatment was to note and tally the children's social contacts. For each child a score was computed, representing the number of thirty-second intervals during which he entered into a social contact with one or more other children. A "social contact," as treated in this study, represents any occasion in which, to all appearances, there was an interchange between one child and another. This includes all co-operative, organized play, sharing of materials or activity, physical contacts, and conversation. It does not include "onlooker" activity, watching, or parallel activity unless an actual interchange had taken place.[3]

The results from this treatment were quite interesting. In the fall, the intervals of social contacts exhibited by children who had had previous nursery school experience and who had old acquaintances in the present group far exceeded those exhibited by other children. The former children will be referred to as the "old" group and the latter, the "new" group —meaning old or new not in age but from the point of view of previous nursery school experience and previous contact with other children in the group.

In the fall, the maximum obtainable score was 300. The scores of the eighteen children ranged from 18 to 220, with an average of 111.1, or 37 per cent of time spent in social contact, according to the definition above.

"Old" children showed an average of 144 intervals of contact, or 48 per cent. "New" children (including the two who had attended schools but were strangers to all the present subjects) had an average of 78, or 26 per cent. The "old" children exceeded the "new" almost two to one.

If the two children who were new to the group, but who had previously attended nursery school, are counted with the "old" rather than the "new," the difference is still greater, with a score of 64 for "new" children and 141 for the "old."

Here is rather a striking difference, which seems to speak well for the effect of previous nursery school experience on children's ability to make contacts and to fraternize freely with others.

However, when matters are examined more closely, both from a quantitative point of view and from the point of view of individual children, it appears that the difference is somewhat deceptive. For, when the results are treated in smaller sections (which, of

[2] The reliability of the observers was measured by computing the percentage of agreement between the records of workers who simultaneously but independently observed the same behavior. When independent records were compared, item by item, the agreement between different observers and the main worker (who had previously participated extensively in investigations conducted by the method of direct observation) ranged from 88 per cent to 100 per cent.

[3] The reliability of this procedure in analyzing the data was measured by computing the agreement between the results obtained when two workers independently analyzed and tabulated the contents of the records of eight children. The agreement between the two workers ranged from 88 per cent to 96 per cent in the case of individual children, with an average agreement of 92 per cent.

The reliability of the sampling was measured by the customary procedure of computing the correlations between equal divisions of the data. In the fall, the following coefficients were obtained in connection with scores on social contacts: first five records vs. second five, .84; even records vs. odd, .73. The spring coefficients were: first four records vs. second four, .44; even vs. odd, .60. These coefficients represent values obtained after correction by the Spearman–Brown formula. It is apparent that the more limited spring data (representing eight five-minute observations per child) are less reliable than the more extensive fall data.

course, means that the reliability is lowered), quite a different picture emerges.

Even during the first few weeks of school, the "new" children were making rapid gains on the "old." During the interval covered by the first half of the observation in the fall, "new" children made only 54 per cent as many social contacts, on the average, as did the "old."

But, during the second half of the observations—still in the fall, and still not many weeks after the beginning of school—"new" children had progressed to the extent that they made 80 per cent as many contacts, on the average, per unit of time, as did the "old." In other words, within a few weeks, the "new" children had made up most of the advantage, if such it can be called, which the "old" children had apparently acquired from previous nursery school attendance during one or two years.

These trends appear still more strongly in the spring. The spring records show an increase in number of social contacts per unit of time as compared with the fall, when the records of all children are considered together. Fifty-eight percent of the time was spent in social contact in the spring, as compared with 35 per cent in the fall.

This gain was shared by both the "old" and the "new" children, but the latter gained much more than did the former. The "old" children increased from 48 per cent to 58 per cent. The "new" children increased from 26 per cent to almost 59 per cent. If the two children who were strangers but who had gone to other nursery schools are treated as "old" rather than "new" subjects, the "new" group still scores practically as high in the spring as does the "old." The respective percentages are 61 for the "old" and 55 for the "new."

As far as group trends are concerned, in the matter of social contacts, it appears, then, that the "new" children had progressed as much during a year in nursery school as had the "old" children during the same school year plus one or two preceding years of nursery school attendance. These averages would look more impressive if the numbers were larger. Even if the number were larger, however, and the averages thoroughly reliable, they still would tell only a small part of the story, according to further examination of the results. Almost every department of this study emphasizes how deceptive averages may be when they are examined in the light of closer study of the individual scores included in the averages.

When we look at the records of individual children in this as well as other divisions of the study, it appears that the scores obtained by simple counting of social contacts may mean quite different things in the case of different children.

Taken at face value, the averages indicate that the "old" children were at the start more sociable than the "new." In many individual instances, however, this was not found to be entirely the case. The records show that the larger scores made by the "old" children were not due so much to a general increase in sociability—expressing itself in more ubiquitous contacts with other members of the group—so much as it was due to a carry-over of special ties and friendships from the year before.

For example, the child who stood highest in the fall, with a score of 202, made 132 or 65 per cent of these 202 intervals of contact with one other child, a friend during the preceding year in nursery school. The next highest child made 192 intervals of social contact in the fall records; 108 of these consisted of contacts with one single companion from the previous year. In the case of the child who stood third from the highest in the fall, 42 per cent of all intervals of contact were limited to one child, and the child making the fourth from the highest score restricted 48 per cent of her contacts to one child who was her special companion.

In addition, apart from contacts limited to a single friend carried over from the preceding year, a large number of the remaining contacts were restricted to old acquaintances from the preceding year. In the case of one of the "old" children, who made a high score of 175 intervals of contact during the fall records, only eight contacts were shared with children whom the child had not known the year before.

In other words, much of what seems at first glance to be an increase in sociability derived from nursery school attendance does not represent so much a general increase in ability and inclination to fraternize freely with others as it represents a carry-over of special companionships.

This does not mean, however, that *all* of the apparent initial advantage of the experienced children was due to close ties with individual friends. Even when these close companionships are discounted, the evidence as a whole still indicates that the "old" children would somewhat exceed the "new" in social contacts during the first few weeks of school, although not nearly to the extent that the averages at first glance would suggest. The fact that previous experience in nursery school may promote a child's ability to make social contacts, even though no previous acquaintances are present, it suggested by the behavior of the two children who were new to the present situation and strange to all the children, but who had attended other nursery schools the year before. Both of these children made very low scores during the first part of the period of observation in the fall, but thereafter they gained much more rapidly than did children who not only were new to the present group and situation, but who also had never attended nursery school before. (One child increased his social contacts per 15 minutes from 6 in the first five records to 24 in the second five; the other had an average of 6.1 during the first seven periods and an average of 21.3 during the remaining three.)

The present abbreviated report will offer a few illustrative items rather than a review of all the other various phases of the study, dealing with group trends and individual characteristics in such matters as conflicts, leadership, imaginative behavior, resourcefulness, and the manner in which individual children responded to the nursery school environment.

It has already been implied that averages and other statistical values may be quite deceptive and conceal more than they reveal. This is especially true if we follow the hallowed procedure of noting simply the occurrence or nonoccurrence of a phenomenon without regard for the context in which the phenomenon occurs.

Two children might make almost similar scores on a given tabulation, and yet the two scores might mean quite different things. Again, two children whose scores were far apart might be more alike, basically, than two children scoring about the same. The matter of children's conflicts—their fights and quarrels—offers an illustration.

In the records obtained in the spring, it was found that two children, one a boy and the other a girl, showed an increase in conflicts as compared with their records in the fall. But, although similar on the surface, in this respect, the story in each case was quite different:

One child—a boy—whom we will call Holden, was a youngster who in the fall stood far above the average in number of social contacts. He also exhibited few conflicts. Holden was rather small in size but quite resourceful. A large percentage of his contacts were with another child, Dennison, who acted pretty much as a willing slave. Then, during the middle of the school year, Holden was absent for some weeks. In the meantime, his loyal companion, partly with the help of the teachers, had found other friends. When the boy came back, he tried to renew his old relationship with Dennison. Dennison was still friendly—he tried to get Holden to join in play with his new friends, but he refused to follow Holden as he had done before. Holden, in spite of his apparently high social score in the fall, was not prepared to play with his pal and his pal's new friends on an equal basis of give-and-take. His old relationship with Dennison was destroyed, and he seemed for some time to lack the resources to reestablish himself. Then a number of things happened. During the fall and the preceding year he had been rather independent of adults, but now he hovered near the teachers a good deal of the time. While previously he had appeared to feel no need of affection, he now occasionally permitted such children as were willing to baby him, pet him and help him with his clothes. But the biggest change, as indicated, occurred in the matter of conflicts. His previous self-confident ways, which had worked with Dennison, did not work when he tried to join the other boys, most of whom were bigger than he, and who appeared to scorn his small size. They would reject him, yell, "Get out of here"—and when they did that, he would shout back to them and hit. When he hit, the others hit back. One record shows no less than four other boys pushing and hitting him at one time. He kept up the fight for a little while and then ran away crying. Fighting of this sort continued for some time during the spring and was responsible for the rise in his conflicts in the spring as compared with the fall.

The other case of a large increase in conflicts was the case of Mabel, who, in the fall, spent a large proportion of her time with a dominating companion carried over from the previous year. As time passed, she tried to break away from the sway of this companion, but the latter persisted in following along and importuning her. Mabel wanted to live her own life, and, to rid herself of these unwanted attentions, she began to fight. Her scores on conflicts went up. In this respect, she was like the boy we have just described. But the conflicts in Mabel's case fitted into quite a different context than did Holden's. When Mabel fought, she was trying to break loose from the domination of another child, and while fighting this child, she was widening her social activities and improving her adjustments within the group as a whole. In contrast, as long as Holden expressed his maladjustment by fighting, he was merely strengthening the barriers which he was trying to batter down.

The moral of this little nursery tale is apparent. It would be possible to add two such conflict scores together, along with others, as equivalent and constitutent elements in an average. The average would have some meaning, since the conflicts in both cases were methods of solving a problem, but it would still give only a meager picture of underlying facts. This holds true from the point of view of understanding the children involved. It also holds true from the point of view of the teacher and her handling of the children.

Somewhat analogous conditions were found in other phases of the study, especially in the matter of individual differences in leadership among the children.

For example, there were two children who often directed the behavior of others. One of these children tried to rule by crude directions and commands, and while he frequently was obeyed, the other children soon left the scene. The other operated by invitation and suggestion more than by command; children not only followed his suggestions, but often sought him out. Following is a brief example from one of his records. Another boy has joined Kirk at a big box, which is a ship. Kirk establishes the boy on top of the box, then goes below and says: "I have to stay down here; I'm like an engineer." The other boy says, "I'm an engineer, too." Kirk says, "You stay on top and you can be the captain. The engineer isn't the biggest boss. The captain is the biggest boss. Do you want to be the biggest boss" The other boy says, "Yes." The game goes on, with the big boss standing in his glory on top, while Kirk, the humble engineer, really runs the ship and captain from down below. A tally simply of each time that a child such as this has his way with others and a tally of each time another child rules by browbeating methods, might give both children rather high scores, but such scores would not be as meaningful as they might be from the point of view of understanding children or from the point of view of the teacher.

Throughout the study, it appears, as has been indicated, that children's adjustments and the effect of nursery school environment were highly individual matters. One child has been mentioned above, who, from the point of view of number of social contacts in the fall, might appear to be well adjusted, yet who early in the spring was in a rather sorry plight for some time. Both this child and one of the other "old" children went counter to the trend by showing a decline in social contacts from fall to spring, and neither of the two appeared to be well adjusted to other children or the nursery school situation.

On the other hand, there were two children who made a very small number of social contacts both in the fall and in the spring. But each of these, in his way, in the light of his record as a whole, appeared to have profited from the nursery school and to have achieved a better balance in his behavior, with much less sheer "orneriness" in nagging other children, in one case, and much less dependence on adults in the other.

On the whole, the results tend to agree with earlier findings to the effect that nursery school experience promotes the child's social development, although some children may fail to show much benefit, and some measures of apparent improvement may not mean as much as they seem to show.

In the course of the study, many observations were made of the practices of teachers and the effects of these practices on individual children. These observations were too limited to yield systematic findings, but, coupled with observations made in earlier investigations and in other groups, they do suggest the following comments. Nursery schools can be run too much on the theory that if only one throws a number of children together, gives them plenty of toys and equip-

ment and good meals and naps, great benefits will come to the children who attend. Actually, many good results may come from this policy, but the writer believes that more could be done than usually is, if the teachers would use less of the hands-off policy and actually take more of a hand in helping individual children in specific ways. The nursery school offers many splendid opportunities to encourage skills and aptitudes that will help a child not only in coping with his physical environment but also make him more effective as a person, less timorous and more independent. This does not imply that all children need be molded into a single pattern, with the robust, athletic, sociable type as a model. Jack's (5) investigation at the University of Iowa has suggested the manner in which training in a simple skill can have rather profound effects on a child's self-assurance and his relations with his fellows. Opportunities along this line are, in the writer's opinion, all too frequently neglected in preschool education.

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TEACHERS TECHNIQUES IN THE NURSERY SCHOOL LUNCHEON PERIOD*

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The specific purpose of this study was to observe, describe, and analyze the various techniques used by teachers during the nursery school luncheon period and to evaluate them in terms of their effect upon the children, in order to obtain information that might have practical implications for child guidance in the nursery school. The data obtained and studied include: (1) records of the activities of the teacher during the entire mealtime, (2) records of the children's behavior problems presented during this time, and (3) records of the techniques of the teacher in guiding the children with these problems.

METHOD OF COLLECTING THE DATA

The teacher was observed directly and the children indirectly by means of a modified diary recording technique. The observer recorded as much of the activities and language of the teacher as was possible. The activities of the children that were related in any way to the activity of the teacher were also recorded. A stop watch was used and one-minute intervals were noted on the record. Additional information was obtained from records of home visits, from nursery school records, and from conferences with the nursery school staff.

SOURCES OF THE DATA

The subjects were six teachers and twenty-seven children at the nursery school of the Child Development Institute, Teachers College, Columbia University, and four teachers and twenty-one children at one of the Federal Emergency Nursery Schools. The Institute teachers as a group had had considerably more training and more selected experience than the Federal teachers in nursery school education. In this study, the teachers who are designated as experienced are those who had had specific nursery school training plus at least one year of teaching, part of which was done under recognized expert supervision. (Teachers A, B, H, and K). The others, although having had varying amounts of specific training, were considered as inexperienced.

The children ranged in age from just under two years to four years; most of them were older than three years. Those at the Institute school came largely from homes of comparative economic security and in which the professional element predominated. The Federal school children were, for the most part, from homes decidedly insecure economically and often underprivileged in other respects.

Each teacher was observed during five luncheon periods: (1) during two consecutive days when in charge of her own customary group of children, and (2) during three days when in charge of an experimental group (at each school) over which each of the other teachers presided in turn. The tenth teacher, one of long experience, was observed five days with a new group of children.

The children at the experimental tables (eight in all) were observed during from nine to sixteen luncheon periods and the children at the teacher's regularly assigned table (forty in all) were observed during from one to five periods.

SUMMARY OF FINDINGS[1]

Classifications were made of: (1) the teachers' activities (See Table 1), (2) the children's problems (Table 2), and (3) the

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[1] The accuracy of the experimenter in her observation and the adequacy of the classifications of teacher activities were checked for extent of agreement between the experimenter and another experienced person. The per cent of agreement on the former ranged from 80.3 to 97.3, on the latter from 91.8 to 100.0. The reliability of the sampling was determined by noting the consistency of various findings from day to day. Arrington's (1) method for computing percentage of agreement between two observers was used.

TABLE 1

FREQUENCIES OF TEACHERS' ACTIVITIES FOR ENTIRE PERIOD BY MAJOR CLASSIFICATIONS*

Classification of Activity	Institute Teachers		Federal Teachers		Both Schools	
	Frequency	Per Cent	Frequency	Per Cent	Frequency	Per Cent
Food (serving of, etc.)	858	19.4	980	18.2	1,838	18.7
Manipulation (use of utensils, handling of food etc.)	371	8.4	394	7.3	765	7.8
Standards of acceptable eating behavior	238	5.3	273	5.1	511	5.1
Attention getting (reminding, suggesting, recommending)	814	18.4	1,106	20.6	1,920	19.5
Praise and approval	81	1.8	117	2.2	198	2.2
Other positive motivation	197	4.5	313	5.8	510	5.2
Negative motivation	43	1.0	62	1.2	105	1.0
Accompanying routines (bib, chair, clean hands, toilet, etc.)	320	7.3	469	8.7	789	8.4
General behavior (fooling, shouting, stamping, etc.)	134	3.0	172	3.2	306	3.1
General conversation (not including food)	282	6.3	334	6.2	616	6.2
Activities not directed toward child but concerning child	88	2.0	89	1.6	177	1.8
Activities not concerning child	420	9.5	267	5.0	687	7.0
Activities not classified (insufficient information)	580	13.0	799	14.9	1,379	14.0
Total activities	4,426	100.0	5,375	100.0	9,801	100.0

*Institute totals are for five weeks, Federal totals for four weeks.

TABLE 2

CLASSIFIED PROBLEMS: FREQUENCY FOR EACH TEACHER*

Problem	Institute Teachers					Federal Teachers				Total Institute	Per Cent Total Federal	Total All Teachers
	A	B	C	D	E	F	G	H	J			
Technique of eating	8	18	13	18	9	15	7	16	18	66	56	122
Table manners	3	10	10	9	10	21	12	17	17	42	67	109
Dawdling	18	21	19	20	9	23	19	13	11	87	66	153
Food dislikes	4	3	0	2	5	8	2	5	3	14	18	32
Other standards	7	4	3	2	9	5	4	8	5	25	22	47
Accompanying routines	12	12	11	9	8	44	26	21	46	52	137	189
General behavior	15	17	12	17	8	32	27	24	25	69	108	177
Answering questions	0	13	6	0	3	11	5	11	10	22	37	59

*Institute totals are for five weeks, Federal totals for four weeks.

TABLE 3

FREQUENCY OF EACH TEACHER'S ACTIVITIES FOR EACH OBSERVATION DAY

Teacher	Frequency of Teacher Activity					Total
	Own Table		Experimental Table			
	1st day	2nd day	1st day	2nd day	3rd day	5 days
	Institute School					
A	147	162	88	183	128	708
B	137	189	212	169	242	949
C	108	116	191	228	182	825
D	134	193	313	260	222	1122
E	110	164	162	232	154	822
	Federal School					
F	267	307	225	324	238	1361
G	244	301	191	354	424	1514
H	230	256	193	216	318	1213
J	173	216	405	239	255	1288

teachers' techniques with the problems. An analysis of the data reveals the following among the findings:

The Teachers' Activities

Wide differences among teachers and marked variations for each teacher from day to day, as well as certain trends were noted (Table 3). Some teachers tended to have consistently few and others consistently many activities. The Federal teachers each had a higher aggregate frequency for the five days than any Institute teacher. A classification of the activities (Table 1) reveals that the greatest number of activities dealt with motivating the children to eat (27.9 per cent of total activities), and the second greatest dealt with the serving of food, 18.7 per cent. Other units in the classification received from 1.0 to 8.5 per cent.

A further study of motivation, the greatest concern of the teachers, discloses that reminders and suggestions were used most frequently; positive forms of motivation other than praise were next in order, followed by praise. Negative forms of motivation were used comparatively infrequently, usually as a last resort, and almost never by the experienced teachers at the institute. The teachers who used negative motivation most tended also to use praise most.

All teachers tended to base specific instruction of eating standards (in the way of manipulation of tools and food, acceptable eating habits, and manners, etc.) on the specific child behavior in the situation at hand.

The teachers tended to be simple and direct in attending the children, using the one-activity-at-a-time approach, roughly 75 per cent of the time. The more complex form was used primarily with difficult eating problems.

The teachers initiated more verbal response than did the children (71.5 per cent). Of this activity, 70.4 per cent was explanatory in form, the encouraging tone prevailed in 9.4 per cent of the comments, the commanding tone in 6.8 per cent, and the questioning attitude in 4.8 per cent. Other voice characteristics such as reprimanding, exclaiming, impatient, threatening, and whispering were used sparingly. Individual differences were noted among the teachers, especially in prolonged problem situations.

Commands constituted 27.3 per cent of all speech activity of the teachers, the Federal teachers as a group and singly averaging higher than the Institute teachers. The Institute teachers averaged 34.5 per meal, ranging from 0 to 51, the Federal teachers averaged 54.4, ranging from 0 to 102. Individual differences were noted in the teachers in number and nature of commands given. As a group they gave from 1 to 12 commands per child per day. The experimental children received about twice as many as the teachers' own children, the presence of a dawdling problem accentuating the number a teacher gave.

There were more indirect than direct commands given, the Institute teachers giving more of the former, the Federal teachers more of the latter. About one-half of the commands were given during the middle third of the meal when there was a greater accumulation of children's problems.

The Children's Problems

Although there were wide differences in the home backgrounds of the children from the two schools, there were no outstanding differences in the behavior of the children of the two groups.

The individual children varied greatly in the time they took to eat. Although there were variations from one day to another, each child tended to show a characteristic trend in rate of eating.

The problems presented by the children were classified under eight headings. The forty-eight children presented 960 separate problems at 197 meals, an average of 4.9 per meal. One child presented as few as 2.3 problems per day, ranging from 0 to 6, whereas another child averaged as many as 8.0 per day, ranging from 3 to 15. The same problem tended not to recur during a meal. From the standpoint of demands upon the teacher's time, ingenuity, and attention, dawdling and food aversion were the most prominent problems that occurred.

A study of the children's behavior shows that each child tended to exhibit a pattern of behavior that was more or less peculiarly his own. This was noticed particularly in problems of dawdling and food aversion, some of the children tending to be erratic, others somewhat uniform in their behavior.

The Institute teachers encountered fewer problems than did the Federal teachers, the average per teacher per day for the former being 15.1 and for the latter, 25.6. This trend of differences between the two schools is further supported by similar differences for

the individual teachers in the two schools (See Table 4). Individual differences in the teachers may be seen in noting that teacher E, who had encountered the least, had 8 to 14 problems per day, with an average of 12.2 per day; whereas teacher F, who had encountered the most, had to deal with 27 to 41, with an average of 31.8 per day. The average per day for all teachers was 19.7 problems. Differences in the home background of the children (the Institute children having slightly better mastery of skills and eating behavior), and less effective techniques of most of the Federal teachers, seemed to be partly responsible for the greater number of problems among the Federal children.

The teachers encountered these problems from all the children and in varying frequencies. However, most of the problems were encountered from a few children. The eight experimental children (eight of the total forty-eight children) presented an average of 20.3 per day. Also some of the teachers met more problems with some children than did others. For instance, teacher E met very few problems in dealing with child 4, whereas teacher D had to contend with a large number. A similar difference is seen between teachers H and G in attending child 30, teacher H encountering comparatively few.

Techniques Used by the Teachers With the Various Problems

A record was made for each teacher of all the techniques she used with every problem (2). There were variations and differences in the teachers in regard to the techniques they used with the children, in the factors influencing those techniques, and in the degree of success each had in the luncheon period. These techniques were summarized for each problem as follows: (1) those generally used by most teachers, (2) those specifically used by a few teachers, (3) those specifically used by experienced teachers, and (4) those specifically used by inexperienced teachers. There was much overlapping and there were varying degrees and ways in which a technique was used.

Those used generally by most of the teachers are well accepted techniques that usually work in a given situation and those used specifically vary from very acceptable to very undesirable. The greatest differences were noted when the experienced and inexperienced teachers are compared. The former tended to use only techniques which are generally accepted by outstanding authorities in nursery school education. The inexperienced teachers, while using many of these, also were likely to use questionable techniques.

Although most of the techniques the teachers used were educationally approved, it was found that unless they were used with finesse and with due consideration for the given individual child and his problem, they were likely not to succeed. An important factor in this respect was the one of the interaction of the teacher and child personalities which

TABLE 4

NUMBER AND VARIETY OF PROBLEMS PRESENTED BY CHILDREN ANALYZED FOR EACH TEACHER

Teacher	Frequency			Variety			Length of meal-time, minutes	
	Range, 5 days	Total, 5 days	Mean per meal	Range, 5 days	Total, 5 days	Mean per meal	Range, 5 days	Mean per meal
				Problems Presented				
A	9 to 18	67	13.7	7 to 13	24	9.8	27 to 46	38.2
B	14 to 25	98	19.6	11 to 15	30	13.0	37 to 44	40.8
C	13 to 17	74	15.0	10 to 13	31	12.2	23 to 52	37.2
D	12 to 22	77	15.7	10 to 14	27	11.0	28 to 54	41.8
E	8 to 14	61	12.2	6 to 11	25	9.4	24 to 40	33.4
F	27 to 41	159	31.8	15 to 20	36	17.8	34 to 44	37.8
G	17 to 30	102	20.4	11 to 16	31	13.0	26 to 48	36.2
H	13 to 29	115	23.0	11 to 17	32	14.8	31 to 54	39.2
J	20 to 34	135	27.0	11 to 18	37	15.8	23 to 58	35.8
Institute Total	8 to 25	377	*15.1	6 to 15	50	28.8	23 to 54	38.4
Federal Total	13 to 41	511	*25.6	11 to 20	51	31.2	23 to 58	37.2
Both Schools	8 to 41	888	*19.7	6 to 20	57	39.2	23 to 58	37.8

*Mean Problems per Teacher

tended to influence the degree of success for each teacher.

The success of a technique was measured by the degree to which certain things were accomplished in a given situation. Individual differences among the teachers were noted in two respects: (1) some teachers succeeded in getting the child to eat his meal within a reasonable length of time, and (2) others succeeded more in helping the children develop desirable emotional and social attitudes toward the luncheon time. It is evident that the experienced teachers put a greater emphasis on the latter phase of success.

The data bring to light a lengthy list of teacher attitudes, techniques, and practices that are most likely to yield the best results.

Conclusions

This study investigated the techniques which ten teachers used with forty-eight children in one private and one public nursery school during the noon luncheon period. Although the number of cases reported is small, certain outstanding observations were evident.

Teacher Techniques

The specific value of the techniques used in the solution of different kinds of problems depends upon the situation at hand. That is, the teacher must consider carefully which techniques are likely to work with a given child in a given situation.

Techniques used by the teachers with success in the difficult problems of dawdling and food dislikes as presented by the children in the nursery school are: the teacher becomes familiar with the problem beforehand, ignores it to some extent by giving the child little rather than much attention (watchful neglect), and gives the child encouragement from time to time by motivating judiciously with an occasional smile, occasional assistance, occasional encouraging reminder, or praise. She tries to surround the child with a pleasant atmosphere, encouraging a certain amount of conversation and table talk. She serves a small portion to the child and expects him to eat it all unless the child's condition, behavior, and attitude warrant her removing some. She is likely to give the child a food he likes to eat with the food he does not relish, or to place it in an encouraging place (nearby). She speaks in a moderately encouraging and matter-of-fact tone of voice. If she has to carry out a warning made to a child, she tends to do this in a matter-of-fact way. If the child becomes more than usually distracted from the task of eating, she has the child eat by himself. She also sets an example of good eating by eating with apparent relish all the food put before her.

Throughout she tends to put the responsibility for the eating on the child, and holds closely to the principle of maintaining pleasant associations with the eating process. She helps the child when he needs it, she gives a minimum amount of pressure, and she is consistent in her techniques. There is no discussion of the child's eating habits at the table, although she does praise him occasionally if he behaves unusually well.

Techniques used with other problems developing during the noon hour were similarly noted.

Implications

Among the implications of the findings, those for more adequately choosing and preparing the teacher for nursery school work are strongly suggested. The use of indefensible techniques by the inexperienced teachers implies a need for a better understanding of the principles of child guidance. The findings point to the need for care in selecting teachers who have had specific nursery school training and experience under expert guidance, and who have certain personality characteristics that elicit desirable responses from the children.

Better results accrue with not too much teacher activity. The more successful teachers accomplished the same or better results with a minimum amount of activity. Fewer problems developed among the children under their care.

Since the greatest amount of the teacher's attention is directed toward motivating the child to eat, it would seem important that teachers be familiar with the various ways of motivating in terms of their immediate and ultimate effect upon the child. This should help her to be wiser in her choice and use of methods.

The use of so-called artificial incentives strongly challenged by authorities may have at least a temporary place in habit formation. It is a long uninteresting step especially for the problem-food child to get to the place where eating should be done for its own sake in a matter-of-fact, businesslike way. The use of incentives, such as placing a dessert

nearby, offering seconds of relished foods, or saying, "Hurry so you can play with Jackie," met with success when used judiciously by the experienced teachers. How they were used seemed to be the important factor. Their use certainly tended to make for pleasant associations: the child felt more at ease, was more interested in successfully completing a task somewhat uninteresting and distasteful, and got the feeling of satisfaction which should follow, an important principle of habit formation.

Recommendations for Nursery School Procedure

Although suggestions and recommendations for nursery school procedures are discussed in various texts in child training, the findings of the present study point particularly to the following.

A need is seen for a more systematic study of the eating-time problems of nursery school children. This would involve among other things: (1) a more thorough investigation of the background of the particular child's difficulty for possible causes, (2) a careful observation of the child at the nursery school to learn his eating behavior in terms of that environment, (3) a closer contact with the home and observation to learn possible co-operative procedures for the child, and (4) working out a plan for the individual child, which would involve trying out those techniques that are most likely to succeed in building desired reactions and attitudes. To be successful, this plan must cover the child's whole day, for the findings show that the nursery school and home feedings are interdependent in their reaction on the child.

Inexperienced teachers are cautioned to avoid expecting too much of a child particularly in respect to rapidity with which a small child should eat, and how much he should eat when the food is new to him and his manipulation of both food and utensils are still uncertain. Unnecessary problems developed because of the teacher's lack of understanding in this respect.

The "clean plate" standard can be achieved through the common sense practice of giving the child sufficiently small portions so that he will effectively establish the habit of eating everything before him.

In an effort to get the child to eat quickly, the teacher may lose sight of the possibilities of the mealtime as a time for "living." The mealtime might well have, even for children at this young age, the double purpose of enengaging in socialization and conversation as well as ingestion. The experienced teachers have demonstrated that this might well be a way to obtain a relaxed, happy atmosphere and that it is an invaluable aid in promoting eating. The two purposes are really not as mutually exclusive as one might be led to believe.

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RELATIONSHIPS BETWEEN YOUNG SISTERS AS REVEALED IN THEIR OVERT RESPONSES

MARGARET B. MCFARLAND

PROBLEM

Sibling relationships have been considered by a number of psyschologists to be of much importance in the development of the individual. The psychoanalysts have been particularly interested in the early relationships within the family as they influence the later social life of the individual.

In his explanation of the Oedipus complex in which the young child attaches himself to the parent of the opposite sex, Freud (5, 6) has said that with the coming of a rival the Oedipus complex becomes the motive force in the life of the child and causes him to receive with aversion his brothers and sisters. Oberndorf (10) concluded that the Oedipus situation carried with it an antagonism to an older member of the family of the same sex who is regarded as a competitor for the love of the parent. Flugel (5) has said that in the relationships between siblings, hate is in most cases the primary reaction. Adler (1), too, believed the occurrence of jealousy almost universal among older siblings with the coming of a new child into the family.

All of these are interpretations of the function of sibling relationships in the life of the individual. Each represents the special point of view of the concept of psychology to which it belongs and bears the emphasis placed upon it by its association with a particular school of thought. There have been few objective studies dealing specifically with the relationships between children of the same family. Through the case study approach, several studies have yielded information concerning the relationships between certain attitudes of one sibling toward another and factors in the child's environment, experience and individual make-up.

The findings of these studies indicate that sibling pairs of the same sex are more likely to show a jealousy relationship than pairs of opposite sexes (4), that sister pairs show the greatest proportion of jealousy (11), and that sister pairs show the protective relationship least frequently (13).

Approaching the problem from another angle I have attempted in the present study to contribute to the understanding of sibling relationships by studying through objective observations the specific responses that one child makes to another as they live together as members of a family group.

Relationship is defined in this study as the total effectiveness of one individual as a stimulus for the other. The response of one individual to the stimulation offered by another may not in every instance directly express itself in overt behavior, yet in some instances the response may be observed in the immediate behavior. These observable responses are the source material for this study.

SUBJECTS

The study includes observations of twenty sister pairs. The range in age for older sisters was from 3 years, 5 months to 6 years, 9 months; that for younger sisters was from 1 year, 4 months to 4 years, 11 months; age difference between the two sisters of a pair ranged from 1 year, 1 month to 3 years, 7 months. The intelligence quotients for the whole group ranged from 87 to 150, with the median at 115.5. The economic status ranged from that of a family on relief to that of one in which the father was an administrator in a large firm. Ten pairs of sisters were children of two child families and ten pairs had at least one other sibling.

METHOD

Method of Obtaining the Data

The two children of a sister pair were observed simultaneously when contact between them was possible and when they were under the supervision of the home. The behavior of both children was recorded in a running record, timed in thirty-second intervals.[1] In each interval the activity of both children was noted, whether they were in contact or not. There were 235 minutes of recorded ob-

[1] The per cent of agreement between records of social behavior taken by the observer of this study simultaneously with another observer in the nursery school situation was 92.5.

servations for each pair of sisters.[2] This time was distributed over five observation periods. The first three observations, which were 45 minutes in length, were taken in any situation in which the observer happened to find the children. The last two observations, each of which was 50 minutes in length, were controlled by play materials presented by the observer. In the first of these experimental situations a sand-table and sand toys were presented and in the second two dolls and tea dishes were presented with the table.[3] The recorded observations were supplemented by case studies.

Analysis of the Data

In order to gain an estimate of the amount of time the sisters spent in social interaction when contact between them was possible, the records were analyzed for social interaction time. This interaction time was further analysed for the amounts of time spent in (1) imaginative play, (2) physical play, (3) co-operative activity, (4) sharing, (5) conflict. Each interval in which the sisters were engaged in parallel activities without overt interaction was tallied.

The recurrence of certain types of response not only in the behavior of an individual child but in that of many children made them seem of special significance in sister relationships. These types of response were set up as categories for the analysis of the data. They are: (1) direction, (2) submission, (3) resistance, (4) imitation, (5) rivalry, (6) sympathy, (7) protection, (8) helping, (9) giving and lending, (10) affection.[4]

Findings

Social Interactions

In observing these young sisters one is first of all impressed by their play together. In order to gain an estimate of the percentage of time, when contact between the children was possible, that they spent in interaction, each interval in which the sisters made any overt responses to each other was scored for *social interaction*. The time spent in social interaction varied from 24 per cent of the total amount of observed time to 66 per cent with the mean at 40 per cent. The amount of time spent in social interaction tended to increase both with increase in chronological age and with increase in mental age.[5]

Of the twelve sister pairs whose three initial observations included both times when other children were present and times when the sisters were alone, eight spent a higher percentage of time in social interaction when they were alone than when other children were present; that is, when there was a choice of persons with whom social contacts were possible, the sisters tended to be in social interaction during a smaller percentage of time. Three pairs of sisters increased the portion of time spent in social interaction when other children were present because group activities in which both sisters were participators were organized.

These sisters spent from 1 per cent to 44 per cent of their total interaction time in imaginative play and from 0 per cent to 15 per cent in physical play. The amount of time spent in imaginative play was more closely related to the mental age of the older sister than that of the younger sister.[6] Older sisters were more active than younger sisters in contributing the content of the imaginative play and younger sisters frequently partook by their submission to their older sister's direction.

The time spent by the sisters in co-operative activity varied from 1 per cent to 38 per cent of the total interaction time. For twelve pairs of sisters 50 per cent or more of the co-operative activity was associated with dramatic play. Imaginative play may have roles suited to different levels of development while satisfying physical play demands more nearly matched powers. Associated with co-operation was sharing. The mean portion of the interaction time spent in sharing was 3.9 per cent.

[2] As a test of the consistency of the picture of relationship obtained from this sampling of time, the scores obtained by the analysis of the odd halves of the records according to the major categories set up, were correlated with those obtained by the analysis of the even halves. The Spearman–Brown coefficients of reliability ranged from .28 to .88. Because the number of cases included in this study is small, all correlations have been computed by the method of rank differences.

[3] These situations were adapted from those used by Jack (7) in her ascendancy experiments.

[4] The per cent of agreement between two persons scoring the records according to these categories ranged from 90.8 to 100. The average per cent of agreement was 93.1.

[5] The coefficients of correlation between the amount of social interaction and various age factors are as follows:

Factors Correlated with Social Interaction	
CA of older sisters	.60
CA of younger sisters	.63
Mid CA of sister pairs	.69
MA of older sisters	.45
MA of younger sisters	.72
Mid MA of the sister pairs	.75
Mid CA with MA partialled out	.25
Mid CA with CA partialled out	.47

[6] When the amount of time spent in imaginative play was correlated with the mental age of older sisters, r was .72; with the mental age of younger sisters, r was .44.

The time spent in parallel activity without any overt interaction varied from 1 per cent to 24 per cent of the observed time, with the mean at 13 per cent.

Each thirty-second interval of the records in which the sisters were in active opposition, one toward the other, was scored for conflict. The amount of time spent by the sisters in conflict varied from 4 per cent of the social interaction time to 22 per cent, with the mean at 11 per cent. An average of one conflict occurred every 15.6 minutes. When this is compared with the findings of Jersild and Markey (8) it appears that conflicts occurred less frequently between the sisters than between unrelated children in the nursery school, for the average frequency of conflicts in which a child participated in their study was one every 4.8 minutes. But their results indicated also that girls fought less than boys and that children tended to fight less frequently with children older or younger than themselves than with children of their own ages. The conflicts of this study were those between one sister and another, while the conflicts of the Jersild-Markey study were between one child and any other of the nursery school group. The environments of the sisters were spatially less limited than those of nursery school children and in these freer environments there were fewer children to make demands upon available materials and space.

In 46 per cent of the conflicts observed the issue was the distribution of materials. Although there was not a consistent tendency for the social interaction scores of the sisters to be higher in the sand experiment in which an undifferentiated grouping of materials was offered than in the doll experiment in which parallel materials were offered, seventeen pairs of sisters spent more time in conflict during the sand experiment than during the doll experiment. In 21 per cent of the sister conflicts the issue involved was the direction of the behavior of one by the other; 79 per cent of these were initiated by older sisters.

There were nine sister pairs who were observed on days when both children were well and had had a normal amount of sleep and on days when one or both had some physiological disturbance. The average amount of the social interaction time spent in conflict when both were well was 4.4 per cent; when one or both had some physiological disturbance it was 16.2 per cent.

There was not a consistent tendency for the amount of time spent in conflict to increase or decrease with increase in the amount of social interaction time.

Rivalry

Attempts upon the part of one child to equal or excel her sister in the possession of materials, physical size, or skill, or in the attention or regard of another person, were tabulated as overt responses of rivalry.[7]

In the records of the sisters were sixty-two instances in which one child made responses of rivalry toward the other. Of these, thirty-one were instances of material rivalry: thirteen on the part of older sisters and eighteen on the part of younger sisters. Of the thirty-one instances of social rivalry, twenty-six were on the part of older sisters and five were on the part of younger sisters. This difference between older and younger sisters in the frequency of responses of social rivalry was accompanied by a comparable difference in the amount of exclusive attention received by older and younger sisters.

Although responses of rivalry were not observed in the behavior of all of the sisters, one toward the other, instances of such behavior were so regularly reported by the parents of the children that it seemed that rivalry was a part of all of the relationships. Individual children were aroused to rivalry by different types of situations. A child vulnerable to stimulation to rivalry in certain areas of her experience was not in others. The effectiveness of the areas seemed dependent upon the child's own values; as there were gradations in the child's values, so there were gradations in the effectiveness of types of stimulation to rivalry.

Direction, Submission, and Resistance

Direction is the term used to designate an attempt upon the part of one child to control the activities of her sister or to gain the submission of her sister to the advancement of interests which the sister might or might not share. Submission is the acceptance of direction by active adjustment or by passive acquiescence when acquiescence is the aim of the direction. Resistance is the term applied

[7] In studying the various phases of social interaction, the thirty-second interval of the recording was used as the unit of measure but for the individual responses of one child toward another that are frequently of very brief duration, this was too coarse a measure. Therefore, these individual responses have been considered on the basis of the number of instances of occurrence.

to active rejection of direction, ignoring of direct commands, and opposition to the furtherance of interests advanced by the sister.

In the 235 minutes of observation, the number of times in which an older sister gave direction to a younger varied from 45 to 218, while that in which a younger sister gave direction to an older ranged from 19 to 209. The mean number of instances for older sisters was 112 and that for younger sisters was 66. Only two younger sisters surpassed their older sisters in the frequency with which they offered direction. The direction score of the older sister tended to exceed that of the younger in direct proportion to the number of months by which the mental age of the older exceeded the mental age of the younger.[8]

The resistance of older sisters ranged from 12 per cent to 47 per cent of the direction given by their younger sisters and that of younger sisters ranged from 7 per cent to 31 per cent of the direction given by the older. The mean for older sisters was 29 per cent of the direction of the younger sisters and the mean for younger sisters was 18 per cent of the direction of their older sisters. The resistance of only one younger sister exceeded her submission, but the resistance of eleven older sisters exceeded their submission. In many instances there was not sufficient evidence for scoring a response of either submission or resistance as the child's reaction to her sister's direction.

In addition to submission to direction there were observed instances of imitation and voluntary following of one child by the other. The range in frequency of such responses was from 0 to 8 for older sisters with the mean at 2, and from 3 to 30 for younger sisters with the mean at 15. The imitation of younger sisters by older seemed in some cases to be associated with rivalry; the older sisters imitated activities for which the younger sisters received attention.

The end of the direction of both older and younger sisters was more frequently some specific act to be carried out in individual or group activity or the content of her play than of any other type. Twenty-five per cent of the direction of younger sisters had as its end personal service or the giving up of materials, while the end of only 10 per cent of the direction of older sisters was of this type. One younger sister and several older sisters made attempts to get rid of their sisters through their direction. The "Do as I say" quality of the direction of a few older sisters seemed to indicate that the basic aim of the direction was the submission of the sister rather than the specified end. Several of these were children who, although they ranked high in direction of their younger sisters, were conspicuously unsuccessful in directing their peers. Within the sister relationship the child seemed to attempt to compensate for her lack of success in gaining an ascendant position among her peers.

Both older and younger sisters tended to use direct verbal command more frequently than any other technique of direction. Even when older and younger sisters were matched for age, younger sisters tended to use crying as a technique in a higher percentage of their direction than older sisters.[9]

Responses to the Needs and Interest of the Sister

Although the child was active in seeking the advancement of her own interests with her sister, she also reacted toward the needs and interests of her sister. Attempts upon the part of one child to shield the other or her belongings or interests from harm were considered protective responses. The child was observed attacking, directing, or rejecting another in defense of the sister, attempting to conceal her sister's faults, insuring the sister's safety before separation, giving warning, and removing the sister from danger. Sympathetic responses were defined as evidence of concern upon the part of one sister for the distress or discomfort of the other except behavior directed against the cause of the distress which was termed protective behavior. Such responses as hugging the sister in distress, brushing off the sister's clothing, crying when the sister was hurt, and calling the attention of another to the sister's distress were considered sympathetic responses. Helping was defined as any effort on the part of one child to further the interests of the other when those interests were not shared by her. Any instance in which one sister placed things that were within her present possession at the disposal of her sister was considered giving. The frequency with which these responses occurred upon the part of the sisters

[8] When differences in mental age were correlated with the ratios between the direction scores of older sisters and those of younger sisters, r was .74; with the factor of difference in chronological age partialled out, r was .68.

[9] Brackett (2) found that among preschool children crying tended to decrease with age.

in the 235 minutes of observation is shown in the following tabulation.

Type of Response	Instance: Older Sister in Behalf of Younger	Instance: Younger Sister in Behalf of Older
Protective responses	77	10
Sympathetic responses	19	7
Helping	154	55
Giving without receiving	90	67
Giving in exchange	32	32

In these positive types of response, the child tended to discriminate against other children outside the relationship in favor of the sister. In giving materials, one sister tended to give them to the other rather than to playmates. The child tended to defend her sister against other children without evidence of consideration of superior right. The child seemed to defend her sister not because she was in the right but because there was a special relationship between them that made that which threatened the sister's interests a threat against the self as well. In explanation of her defense of Lois, Alice simply said, "She's my sister."

After remarking that a boy was going to fall from a tree, Patty said, "Well, we wouldn't cry; it wouldn't be our boy." The sisters tended to make sympathetic responses with greater frequency to the distress of one another than to the distress of children outside the relationship. In scoring records of the behavior of 70 nursery school children, Murphy (9) found that sympathetic responses comparable to those scored as such in this study occurred with a frequency of one every six hours. Sympathetic responses occurred on the part of one sister toward another with a frequency of one every 6 hours and 1 minute. Because for each sister there was only a single stimulus child, while for each nursery school child there was a whole group of possible stimulus children, it seems probable that the nursery school children were exposed to a larger number of distress situations.[10]

Similar comparisons show that both protective and helping responses occurred more frequently among the sisters than among the nursery school children whose records were analyzed by Murphy (9, p. 121). The threshold to stimuli toward such positive reactions seems to be lower when the stimulus child is the sister than when the stimulus child is unrelated except by group membership. However, such responses tended to be inhibited on the part of the child when the sister's interest interferred with her own interest or security. Children who reacted with sympathetic responses to the distress of their sisters when they were not implicated turned away from their sisters when they had caused the distress. Children inflicted upon their sisters the same types of behavior from which they defended them against other children.

[10] Responses scored as sympathetic behavior in both studies are: Helping child in distress, sympathetic comment, verbal comfort, and active comfort.

Affection

The affection of one individual for another is a complex emotional attitude that manifests itself in various types of behavior, yet there are certain specific affectionate responses that can be observed in the behavior of one individual toward another. Affectionate responses include physical advances such as patting, hugging, and kissing; and verbal expressions such as calling the sister love names or making endearing statements.

There were eighty-six instances of affectionate response made by older sisters to younger and thirty-one made by younger sisters to older. The scores for older sisters ranged from 0 to 17 and those for younger sisters ranged from 0 to 8.

The affectionate responses of the sisters were often a part of their physical play. In this affectionate play many of the techniques did not differ widely from the physical techniques of conflict. Affectionate play tended to change readily to conflict and back again to affectionate behavior. It seems that these young children derive satisfaction from the physical contact of both affectionate play and physical combat.

Affectionate responses often occurred when the sisters were in close proximity. In some instances affectionate responses seemed to arise out of a general feeling of delight and well-being and served to include the sister. Affectionate behavior was frequently a part of the child's sympathetic response.

General Summary

The observations of these sister pairs make clear the varied nature of the relationships. By selecting even the strongest trend of behavior by which to characterize the relationship of one sister to the other, one misses much of the significance of the whole.

The variation in the child's behavior toward her sister was closely related to the situations in which she was responding to her sister. In a few cases changes in the environment were accompanied by major changes in the behavior of one child toward the other. These pronounced changes in behavior with major changes in the environment were not observed in the behavior of many children. More characteristic were changes with the flow of experience. Minor changes, such as a different toy in the hand of the sister or the arrival of some new person, were accompanied by variation in the response of the child to her sister. Even in a single situation the child's response did not always seem to arise from one impulse uncomplicated by others; a single situation may offer a complexity of stimuli. Situations in which the child's own interests were cut across by those of her sister tended to arouse responses against the sister and situations in which the security of the sister was threatened from without the relationship tended to arouse responses for the sister. There were, however, wide individual differences in the frequency with which responses either for or against the sister were aroused by these situations. In varying degrees these two types of response were combined in the behavior of all of the children toward their sisters.

Under similar circumstances the behavior of various children toward their sisters differed. In the behavior of individual sisters were trends toward certain types of response which, although modified by changes in the situation, followed an individual pattern of behavior. These trends were not constant but were subject to modification one by the other and by the situation in which the child responded to her sister; yet the types of behavior which they represent appeared again and again in the behavior of a particular child toward her sister. The trends varied in strength, certain types of response appearing more regularly than others. Some trends appeared to be specific to the sister relationship while others were in keeping with the trend of the child's general social behavior and differed only in emphasis in the behavior toward the sister.

These trends seemed to indicate certain basic attitudes held by the child toward the sister. By attitudes is meant certain continuous emotional readinesses effective in influencing the child's conduct toward her sister. The data of the case studies seemed to indicate that these attitudes were developed through the child's experiences in her contacts with her sister but over the short period of time such as that covered by the five observations, they seemed fairly stable in their influence upon behavior.

The distinctive pattern of the relationship between two sisters is achieved through the interaction of two individual personalities in their own special environment. Through the effectiveness of the sister attitudes in influencing behavior and the continuity of the behavior toward the sister with the general pattern of behavior, the responses of the sisters to each other are organized and take on the particular design of the individual sister relationships. Both the present behavior and the continuing attitudes of one child toward the other are pervaded by the child's approach to the objectives of her own personality.

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ONLY AND INTERMEDIATE CHILDREN IN THE SENIOR HIGH SCHOOL

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This study is an attempt to ascertain whether the typical only child in the senior high school is physically underdeveloped, mentally retarded, educationally handicapped, and socially maladjusted. One, several, or all of these characteristics have been attributed to the only child by certain writers. Campbell (1, p. 200) recently summarized the scientific studies and concluded:

> "'Onliness' *per se* is not the environmental specter so widely assumed. Whatever role the mere presence or absence of siblings may play in the development of personality, its importance is certainly not crucial."

However, the studies reported by Campbell (1) contain little that is conclusive regarding the moot question. The number of subjects is conspicuously small in all investigations: For example, one writer studied thirty-four only children distributed from the kindergarten to the sixth grade. Furthermore, the studies are of restricted value also because adequate control groups were not employed. The following is a case in point. Fenton (3) studied 512 university students of whom seventy-three had been only children. Interesting and suggestive were his results from the Woodworth Psychoneurotic Inventory, although the only and the control groups were not strictly comparable. Many of the studies are of limited value since they have dealt solely with young or very young children. Campbell (2) pointed out that nearly all recent studies deal with "children of less than high school age." Among these was the writer's study of only children of age five (6). On ratings of courtesy, truthfulness, self-control, initiative, orderliness, co-operation, and dependability, the number of only children reaching or exceeding the median of the control group was greater than 50 per cent. Throughout, the results of this study posited superior social adjustment for only children of age five. What the adjustment of these children might be at adolescence remains a matter of speculation.

Campbell insists that personality difficulties are likely to become acute during those ages when children are severing home relations and attempting to establish social or economic independence. "It seems evident that if family position has any influence upon personality adjustment this influence will be best observed at an age more mature than the kindergarten level." Campbell gave the Bernreuter Personality Inventory and Cason's Annoyance test to 200 college men and women. Only and intermediate children were paired according to: high school grades, college entrance examination scores, sex, and class in the university. Slightly greater atypicality was exhibited by the only subjects than by the intermediates, but in no comparison was the critical ratio significant. Moreover, the only child group was slightly more variable than the control group.

Since this study dealt with college students, the present writer was led to make an investigation of high school students to ascertain whether Campbell's conclusions concerning personality development applied to younger subjects. In addition, the writer planned a more comprehensive study than any reported thus far, attempting to relate personality development to factors such as: health, socio-economic status, mental ability, and developmental history.

THE SOURCES OF DATA FOR AND THE NATURE OF THIS STUDY OF ONLY CHILDREN

Two hundred juniors and seniors in Amundsen and Senn High Schools of Chicago served as subjects. One hundred students, fifty boys and fifty girls, were only children, and one hundred were intermediates. The criterion for "onliness" was considered important: an only child was defined as one who not only has no brothers and sisters but who *never* has had sibling relatives. Rigid adherence to this criterion resulted in a concentration of those

factors which attend "onliness." A child was classified as an intermediate if he has both younger and older brothers or sisters. About 25 per cent of the only children and 35 per cent of the intermediate have foreign-born parents. All children have spent six years or more in American schools.

The following data[1] and examination results were assembled for each child:

1. A short case history of physical development and health (from reports of parents and from school examinations and records).
2. Records from the Otis Self-Administering Test of Mental Ability, Form A.
3. Educational record and academic history.
4. Interest questionnaire filled out by child, covering vocational ambition, reading, play, and recreation.
5. Child interest questionnaire with parents as respondents.
6. Bernreuter Personality Inventory.
7. Teacher ratings upon nine character traits.

The only and intermediate children were selected at random from the entire student body in the eleventh and twelfth grades of the two schools. The groups finally selected contained only and intermediate children of about the same ages.[2] Below are the means and standard deviations of the chronological ages:

Group	Mean	S.D.
Only boys	17.2	1.10
Intermediate boys	17.6	.98
Only girls	16.9	.82
Intermediate girls	16.8	.77

It is clear that our method resulted in the selection of girls who were younger than boys.

Social and Occupational Status of Parents

Occupational status has been pointed to as a differentiating factor for groups of only and unselected children. Witty (6) reported the mean Barr occupational rating of the fathers of only children of age five to be 12.5 This rating is between 12.74, assigned by Barr to the position of chef in a first-class hotel, and 12.06, the rating for a masseur or a graduate nurse. Of interest here is the rating of 12.77 reported by Terman as the average for the parents of gifted children (4, p. 71). These average scores of the only and of the gifted children depart strikingly from the rating of 7.92 which Terman gives as the average for the general population. Neither the only nor the intermediate groups in the present study received Barr ratings which are as high as those reported for only and for gifted children. The averages and sigmas for the occupational ratings of the fathers of the two groups follow:

Group	Mean	Sigma
Only boys	10.6	2.54
Intermediate boys	10.52	3.33
Only girls	11.26	2.31
Intermediate girls	10.61	2.83

The only girls have a mean slightly above that of the intermediate girls. The critical ratio of the means $(\frac{D}{\sigma \text{ diff.}})$ is only 1.2. Significance cannot be attributed to the differences in the occupational ratings of the parents of these only and intermediate children in the senior high school. However, the average ratings of the parents of both groups are significantly higher than that reported for an unselected population (7.92). The high school is revealed once more to be a selective agency. Doubtless the present economic conditions have lowered all Barr ratings, and, had this study of occupational status been carried out at the time Terman made his investigation of gifted children, the averages might have been higher for these groups. It is clear, however, that these only and intermediate children have fathers who occupy similar positions, and possibly earn comparable incomes. Furthermore, the educational attainment of the parents of the two groups is similar. The education as reflected in the years of formal schooling of the only children's parents averaged 8.9 years. For the parents of the intermediate, the average was 9.2 years. The difference between the groups is not highly significant, but it does contribute to a body of facts which demonstrate that the only children in this study do not have social and educational opportunities at home which are superior to those of their classmates. Both groups in this study are clearly superior to unselected children. (The average amount of formal schooling of the native-born white

[1] The writer wishes to express his indebtedness to Mrs. Mina Rogers and to Dr. David Kopel for assistance in obtaining and analyzing the data of this study.

[2] In most of the computations, 100 only and 100 intermediate children were used. Occasionally, there are data presented for slightly more than 200 cases; 215 subjects were tested in order that the data would be available to study 100 only and 100 intermediate children on *every* comparable test and item.

draft in the United States Army was 6.9 years.[3]).

An attempt was made to ascertain whether unusual opportunities for recreation and for general intellectual development characterized the social *milieu* of only children. The parents of both groups supplied extensive information upon a form containing twenty-five items bearing upon this question. Included were inquiries regarding: positions of distinction held by the parents, special interests and hobbies, number of books in the home, amount and character of reading, and favorite plays. The responses of the parents of the two groups agreed closely. For example, the composite number of different interests or activities reported by the parents of the only children was 102; the number for the parents of the intermediate was ninety-seven. Positions of distinction were held with almost equal frequency by the parents of the two groups: thirty were reported for the parents of only children, and twenty-eight for the parents of the intermediates. The median number of books was 110 in the homes of the only children; in the homes of the intermediates it was 165. (Since many of the books in the homes are school books, this difference may not be significant.) When a rough index of desirability was given to the homes on the basis of the parents' responses to twenty-five items of the type just cited, little difference was found in the composite scores of the two groups. Scale values totaling 100 possible points were assigned; the average for the homes of the only children was 64; for the intermediates, it was 57.

Physical Development of Only and of Intermediate Children

Measures of the height and weight of the boys and girls were compared with the Baldwin-Wood age norms in an effort to appraise this phase of physical development. The following tabulation gives the results:

	Per Cent			
Weight	Only Boys	Intermediate Boys	Only Girls	Intermediate Girls
Overweight	22	20	22	22
Normal (± 5 lbs.)	54	54	50	56
Underweight	24	26	28	22

[3] These averages are not directly comparable at the present time.

The following presentation displays the average and the sigmas of the heights and weights of the groups.

Group	Average Weight, Pounds	S.D.	Average Height, Inches	S.D.
Only boys	146.84	18.58	70.29	2.75
Intermediate boys	142.78	16.31	69.55	2.97
Only girls	119.1	12.39	64.34	2.91
Intermediate girls	118.75	14.24	64.04	2.65

The only children have had infectious diseases somewhat less frequently than the intermediates. Thirty-nine diseases were reported in the health histories of the only children and forty-nine in those of the intermediates. Four children in each of the groups have experienced serious after-effects. Eleven accidents are reported for the only children; ten for the intermediates. All are said to have recovered fully. Significant differences did not appear between the groups in the frequencies of: colds, headaches, digestive disorders, and organic diseases. The average number of absences from school during a semester was identical for the two groups. The following tabulation gives data from the health reports submitted by the parents.

	Per Cent			
General Health	Only Boys	Only Girls	Intermediate Boys	Intermediate Girls
Good or excellent	88.5	83.0	92.3	81.2
Fair	11.5	17.0	5.8	19.8
Poor			1.9	

The vision of both groups was reported as being unusually good at the time of the investigation, and only and intermediate children did not differ significantly in this respect. The data from parents' reports upon hearing follow:

	Per Cent			
Hearing	Only Boys	Only Girls	Intermediate Boys	Intermediate Girls
Excellent	47.2	41.5	49.0	40.8
Good	50.9	50.9	44.9	55.1
Fair	1.9	7.6	6.1	4.1
Poor	0.0	0.0	0.0	0.0

Beyond doubt, these only and intermediate children differ little in health and in physical development.

Mental Test Results

The Otis Self-Administering Test of Mental Ability was administered. The following

tabulation presents the means and sigmas of the intelligence quotients:

Group	Number	Mean IQ	Sigma
Only boys (M_1)	54	112.41	9.55
Only girls (M_2)	53	109.67	11.35
Intermediate boys (M_3)	54	111.39	10.03
Intermediate girls (M_4)	52	111.92	10.64

The mean IQ of the only children is slightly above 110. This finding corroborates the results of other studies, demonstrating mental superiority for only children.[4] However, the mean IQ of the intermediates is almost identical with that of only children. Moreover, the variability of the two groups is similar. The following critical ratios show clearly that the only and intermediate children do not differ significantly in IQ.

Groups Compared	Difference	σ Diff.	$\frac{D}{\sigma \text{ Diff.}}$	Chances in 100*
M_1 and M_3	1.02	1.888	.540	71
M_3 and M_4	2.25	2.150	1.047	85

* That differences are true differences.

These data also point to the fact that these secondary schools still operate as selective agencies, and they show, furthermore, that only children are not superior mentally to their classmates in the senior high school.

Table 1 gives the means and sigmas of the subject marks in five primary subjects. It has been pointed out that the scholarship of only children is superior to that of unselected children. This statement does not apply to these only children in the senior high school. However, one fact does stand out clearly in this phase of the study. Only girls make consistently higher marks than do only boys, but both only girls and intermediate girls gain higher marks than do the boys. Once more, we find that teachers mark girls a little higher than boys. Critical ratios are not presented for the marks because of the small differences in the means and because of the generally conceded unreliability of small differences in teachers' marks.

[4] Superiority here is a relative term referring to comparisons with unselected school and child-adult populations.

Nervous Stability and Social Adjustment

The general adjustment of the children was estimated by teacher ratings, by the results of the Bernreuter Personality Inventory, and by items chosen from the developmental histories.

The children were rated by their teachers upon nine traits. Values 1 to 13 were assigned the children on each of the following carefully defined and delimited traits: self-confidence, industry, leadership, co-operativeness, originality, perseverance, dependability, ambition, and personal attractiveness.[5] Table 2 gives the means and sigmas and Table 3 presents the critical ratios.

It is significant, perhaps, that the only girls earn ratings superior to the only boys on *all* traits. The superiority, although consistent, is not statistically dependable. Intermediate girls earn higher ratings than intermediate boys on: (2) industry, (4) co-operativeness, (6) perseverance, (7) dependability, (8) ambition, and (9) personal attractiveness. Intermediate boys elicit higher ratings than intermediate girls on: (1) self-confidence, (3) leadership, and (5) originality. Only boys have higher ratings than intermediate boys on: (4) co-operativeness, (5) originality, (6) perseverance, (7) dependability, and (9) personal attractiveness. These traits relate significantly to social adjustment. However, only boys receive lower ratings than intermediate boys on: (2) industry, (3) leadership, and (8) ambition. Identical ratings were given both groups on: (1) self-confidence. Only girls receive slightly higher ratings than intermediate girls and intermediate boys on all traits. The consistent superiority

[5] For a study of the reliability of the method, see Witty, Paul A. *Deviates in Versatility and Sociability of Play Interest* (5, p. 10).

Table 1

Mean Grades With Sigmas in Five School Subjects

Subject	Only Boys		Only Girls		Intermediate Boys		Intermediate Girls	
	Mean	Sigma	Mean	Sigma	Mean	Sigma	Mean	Sigma
English	83.84	6.82	87.78	6.58	81.78	6.50	87.20	6.46
Language	82.58	7.94	86.92	7.64	86.92	7.66	84.72	7.66
Mathematics	83.26	6.96	85.74	7.92	85.90	7.30	86.02	7.00
Science	84.24	6.56	85.63	7.40	83.98	6.88	86.04	6.50
History	85.00	7.40	85.98	7.82	83.48	6.62	85.40	7.54

TABLE 2

MEAN RATINGS WITH SIGMAS UPON NINE TRAITS

Trait	Only Boys			Only Girls			Intermediate Boys			Intermediate Girls		
	Mean	Sigma	Number	Mean	Sigma	Number	Mean	Sigma	Number	Mean	Sigma	Number
1. Self-confidence	6.67	2.01	53	6.58	1.89	53	6.67	1.85	54	6.75	2.03	52
2. Industry	7.18	2.55	53	5.90	2.26	53	6.80	2.13	54	6.26	2.07	51
3. Leadership	7.96	2.37	52	7.48	1.89	51	7.69	1.71	54	7.85	2.01	51
4. Co-operativeness	7.08	2.39	53	6.14	2.22	53	7.30	2.05	54	6.50	2.39	51
5. Originality	7.78	2.01	53	7.17	2.29	52	7.80	1.86	54	7.91	1.72	51
6. Perseverance	7.14	2.07	53	6.39	2.14	53	7.31	2.15	54	6.72	2.24	51
7. Dependability	6.58	2.49	53	5.95	2.33	53	7.24	2.35	34	6.66	2.21	51
8. Ambition	7.08	2.21	53	6.39	2.28	53	7.06	2.03	54	6.99	1.80	51
9. Personal attractiveness	6.50	1.95	53	5.99	1.70	53	6.72	1.76	54	6.68	2.06	51

TABLE 3

COMPARISON OF THE DIFFERENCES IN THE MEANS AND SIGMAS OF TRAIT RATINGS

Trait	Only and Intermediate Boys				Only and Intermediate Girls			
	Difference	σ Diff.	$\frac{D}{\sigma \text{ Diff.}}$	Chances in 100*	Difference	σ Diff.	$\frac{D}{\sigma \text{ Diff.}}$	Chances in 100*
1. Self-confidence	0	0.375	0	50	0.17	0.382	0.445	67
2. Industry	0.38	0.455	0.835	80	0.36	0.425	0.847	80
3. Leadership	0.27	0.402	0.671	75	0.37	0.382	0.969	83
4. Co-operativeness	0.22	0.433	0.508	69	0.36	0.453	0.795	79
5. Originality	0.02	0.375	0.053	52	0.74	0.400	1.850	97
6. Perseverance	0.17	0.403	0.422	66	0.33	0.425	0.777	78
7. Dependability	0.66	0.467	1.413	92	0.71	0.446	1.592	94
8. Ambition	0.02	0.410	0.049	52	0.60	0.398	1.508	93
9. Personal attractiveness	0.22	0.361	0.609	73	0.69	0.370	1.865	97

*That differences are true differences

of only girls suggests that they are *somewhat* better adjusted in school than are their classmates. It is well to bear in mind that *in no instance* does the superiority have high and reliable statistical significance. Therefore, one must conclude that, in so far as trait ratings are concerned, only and intermediate children differ little.

The similarity in the personal adjustment of only and intermediate children is demonstrated further in items selected from the case histories. Parents were asked to report the frequency of maladjustment and the character of abberations in conduct. The number of "problems" reported by the parents of the only children was twenty-five; by the parents of the intermediates, twenty-two. About three-fourths of the items were attributed to boys, and these were equally distributed among the only and the intermediate boys.

Sleep was reported as "sound and undisturbed" for about 90 per cent of the subjects in both groups. Night-terrors and dreaming were said to be observed frequently in five only and in three intermediate girls. Excessive timidity was alleged to characterize 3 per cent of the only children, and 4 per cent of the intermediates. The subjects were found to be relatively free from persistent and excessive fear reactions; specific fears were listed for 12 per cent of the only children and 10 per cent of the intermediates. A marked tendency to worry was prevalent to a small but similar extent in both groups.

Only children report more dominating leisure interests and devote a larger amount of time to reading than do the intermediates. The differences, however, are not conspicuous. Both groups prefer the same kinds of reading. Moreover, only children participate in more group activities (not directly connected with the school). Student ratings of activities show that only children express greater preference than the intermediates for reading, and for music and drawing.

Reading interests merit a more detailed analysis. The average (median) number of hours per week spent in reading is as follows:

only boys, 6.88 hours; intermediate boys, 5.50 hours; only girls, 5.50 hours; and intermediate girls, 5.44 hours.

High percentages of only and intermediate children enjoy reading. A somewhat greater enjoyment of reading by girls than by boys is indicated by the larger number of books reported by the girls. Named as having been read recently are 300 books. Curiously, only one title is reported as many as four times—*Little Women*. Cited three times are: *Gulliver's Travels, Anthony Adverse, Within This Present* (Barnes), *Beau Geste* (Wren), *Robinson Crusoe,* and *Main Street*. The girls in both groups read about the same number of books. Another mark of similarity in the groups is found in the *kind* of reading enjoyed most. Both groups of boys choose stories of adventure; the girls of both groups prefer novels of romance.

The recreational life and activity preferences of the groups were studied further. Both groups exhibit the same degree of preference for associates of equal or greater age. The only children report somewhat fewer collections and list fewer things which they have made; they have fewer paid jobs. A larger percentage of the intermediate children have decided upon a life vocation, and both groups expect to follow similar vocations. There appear to be no consistent or dependable activity differentia in the recreational lives of only and of intermediate children.

The Bernreuter Personality Inventory was administered and the test was scored to ascertain differences between only and intermediate children in four hypothesized traits. B1N tests emotionality or neuroticism, B2S is a measure of self-sufficiency; B31, of intraversion-extraversion, and B4D of dominance-submission.

The raw scores were converted into percentiles, and all calculations were based upon percentile ratings. Although this process gives a rectangular distribution, it is thought that this fact will not greatly invalidate the group comparisons.

Means, standard deviations, standard errors of the means, standard errors of the differences in the means, and critical ratios were calculated in comparing only girls, only boys, intermediate girls, intermediate boys, all girls, and all boys.

The following tabulations include data for the B1N test of neuroticism. These comparisons are considered important since certain writers assert that only children are inclined to exhibit nervous instability. The critical ratios do not support this contention. Of interest further is it that the comparisons of the entire group of boys and of girls yield a critical ratio of .695. These high school girls tend no more than do the boys to neuroticism (as measured by this test).

Group	Mean Percentile Rank	Sigma	Number
Only boys (M_1)	49.81	29.30	54
Only girls (M_2)	57.26	25.45	53
Intermediate boys (M_3)	54.45	29.53	54
Intermediate girls (M_4)	53.04	26.57	51
All boys (M_5)	52.12	29.40	108
All girls (M_6)	54.81	26.10	104

Groups Compared	Difference	σ Diff.	$\frac{D}{\sigma \text{ Diff.}}$	Chances in 100*
M_1 and M_2	4.64	5.664	.819	79
M_3 and M_4	4.22	5.108	.826	80
M_5 and M_6	2.69	3.86	.695	76

* That differences are true differences.

From an examination of the critical ratios of all four tests, it is apparent that the Bernreuter scale does *not* discriminate between only children and intermediates. To be significant, a critical ratio should exceed three. In this study the highest critical ratio for the scores of only and intermediate children is 1.205 (on the B4D test of dominance and submission). The remaining critical ratios are below 1.

Therefore it seems apparent that whatever the practicability of the Bernreuter test may prove to be, it does not differentiate between the two groups in any of the four aspects of the test. Furthermore, it has been shown that there is no significant difference between the boys and the girls in the traits under consideration.

The Bernreuter test results add one fragment more to the bulk of evidence indicating that the "onliness" factor is of little significance in the development and adjustment of senior high school students. The "adjustment" and its desirability are not finally appraised since all the rating devices employed in this study have serious limitations in *evaluating* the behavior of school children. Differences in these *desiderata,* however, are not discernible when one compares only with intermediate children.

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A STUDY OF REPORTED TENSION IN INTERPARENTAL RELATIONSHIPS AS CO-EXISTENT WITH BEHAVIOR ADJUSTMENT IN YOUNG CHILDREN[1]

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Indication that there is important connecnection between the tensions in the interparental relationships and child adjustment is widely suggested in the literature of today. Studies in various areas point to the relation between marital disharmony of the parents and maladjustment in the child's personality and behavorial manifestations. Witmer (31), Hubbard and Adams (12), Wallace (29), Cohen and Davis (3), for instance, point to the status of the marriage relationship of the parents as bearing influence on the outcome of child guidance treatment. Lamkin (14), Towle (28), and others, attribute child maladjustment in large part to marital conflict in their analyses of child guidance clinic cases. Studies of adolescents and college students, as those of Thurow (26), Bowers (1), Goodwin Watson (30), point to discomfort and conflict for the children as emanating from discordant parent relationships. The connection of the child's adjustment to maternal rejection and overprotection, which in turn relate in an appreciable degree to the marital status of the mother, has been indicated, for instance, by Figge (6), Gleason (9), Lewenberg (15), Newell (21, 22). Influence of parental conflict on specific behavior problems or phases of child adjustment has been similarly indicated, for example, by Mohr (18) and by Giblette and Macrae (7) as a psychogenic factor in anorexia, by Kawin (13) as a factor in poor social adjustment, by Totten (27) as bearing weight on such behavior as stealing, truancy, lying, and disciplinary difficulties, by Halloway (10) and Neumann (20) on withdrawal from playmates, by Sewall (23) on jealousy, and by Childers (2) and Ginsburg (8) on hyperactivity. Tensions in the relationship of marriage partners have been variously investigated, as in the studies by Davis (4), Terman and Buttenweiser (24), Woodhouse (32), Hamilton (11), Terry (25), Dickinson (5), and Mowrer (19).

On the whole, however, investigations of the two areas, that of marital relationships and that of child adjustment, have been kept separate. A variety of those tensions considered important by investigators in the field of marriage have not been viewed in the light of the question as to whether certain types of tension are more appreciably related than are others to the type of adjustment that children make. Yet, the gathering of such data would have obvious value in furnishing leads as to what phases of marital adjustment might be profitably emphasized in nursery schools, in child guidance clinics, in the field of parent education, with parents coming to marriage consultation centers, or in any place where counseling relative to children's problems enters.

The present study has attempted to draw together these two areas, to investigate certain types of tension in the marital interrelationships of parents as coexistent with child adjustment. It has asked whether certain types of tension were more significantly related to child adjustment than were others in the group under investigation. It has, moreover, gone into certain background factors in the lives of the parents, both to see if any of these appeared appreciably related to child adjustments and to gain indications as to whether some of these background factors were apparently connected with those tensions in the interparental relationships which appeared most significant to the adjustment of the child.

The study has concerned itself with the families of preschool children, since for the child of this age, influences outside the family would not yet have as strongly impinged themselves on personality and adjustment, and have diluted, as it were, influences from

[1] This article is based on a doctoral dissertation of the same title on file at Claremont Colleges, April 1937.

within. It has dealt with children living "normally" at home with both parents, not with institutional or clinical cases, nor with children from broken homes.

Moreover, since the investigator had the advantage of direct contact with both parents and children, it was possible to gain a more integrated picture than would have been feasible had the investigator needed to rely on indirect sources of information, as from clinic or school files.

Subjects

Thirty-three children and their parents were included in the study. The children were enrolled in the preschool laboratories of the Broadoaks School of Education, Whittier College.

Cases were selected on the basis of the child's being in the above mentioned school situation so that he could be observed at the same time that the parental relationships were under investigation; willingness of one or both parents to co-operate in the study; the absence of gross major defects in the home, such as extreme poverty, serious illness, and the like, to exclude the effect of these so that the weight of the more subtle factors might not be overshadowed; and both parents living together at the time of the study, to exclude broken homes.

In twenty-nine cases both fathers and mothers co-operated in the study. In four cases the mother only.

The occupational status of the fathers fell, in all but one instance, in the two highest occupational classes on the Sim's Scale. Ages of the fathers ranged from 28 to 54 years, with a mean age of 35.6, of mothers from 26 to 43, with a mean of 32.8. Length of marriage ranged from 5 to 17 years with a mean of 9.4. The majority of both fathers and mothers were college graduates.

According to external appearances, the parents were apparently without serious marital maladjustment, a very "normal" group. To the investigator, however, during the course of the study, many disclosed unsuspected points of tension. Approximately half the group (14 couples), however, could have been loosely termed "happily" married.

The ages of the child subjects at the beginning of the cases ranged from 1 year, 6 months to 4 years, 8 months, with a mean age of 3 years, 4 months, and at the close of the cases, from 2 years, 6 months to 6 years, 11 months, with a mean age of 4 years, 2 months. They were enrolled in the preschool, under investigation, from 1 to 5 semesters, with the mean number of semesters 2.3.

The intelligence quotients according to the Kuhlmann Revision of the Binet-Simon scale (used with children under 3 years, 6 months) or the Stanford Revision (used with children over 3 years, 6 months) ranged from 100 to 175, with a mean of 128, a median of 128, and a standard deviation of 16.5 ± 1.42.

Procedure

The question as to which items to include concerning the parents was a difficult one. Selection was finally made of certain ones drawn from the literature and evaluated for applicability to the group to be studied in the light of an examination of thirty-one cases, previously dealt with, composed of personnel similar to that of the present study and in which there had been overt expression of marital dissatisfactions.

Comparable data were secured through parental reports on items in the interrelationships of the parents and in their backgrounds. Procedure was that of free interviews of the psychiatric type, in which rapport in the relationship of investigator to parent was recognized as an important factor in freeing the parent sufficiently to give expression to intimate details concerning his life. Fortunately, circumstances under which the study was made, were such that rapport could emanate from first-hand, continuous contacts between parents and investigator.

In the frequent observations by parents at the school, they saw the investigator as preschool director in close contact with their children, sharing a mutual interest in them. In group meetings and individual conferences, an atmosphere of freedom was fostered for the parents' expression not only of intellectualized but also of emotional content. All through, there was an effort to help the parent as a person to tolerate the reality of his own feelings, not to deny them, the attitude being held that the parents' emotions were very real influences in the child's environment, and further, that such emotions were not facts to sense guilt over, but rather, natural and "normal" as an outgrowth of the life experience of the parent as an individual. Thus, the discussion of marital tensions did not entail either a sudden freeing or an essentially

new sort of relationship of parent and investigator, but merely an extension of expressiveness and of confidence already established.

Participation was secured through telling parents about the study and asking for their co-operation. Reassurance was, of course, given that data would be disguised and that no information would be divulged to respective husbands or wives.

During interview the items to be investigated were kept in mind, but no forms or outlines were in view, nor was interview material confined to the items. Rather, parents were given plenty of opportunity to talk along lines which they seemed inclined to pursue, the investigator bringing in an item where it seemed to fit, not in any set order or phraseology but in whatever way appeared most natural and least pointed. Direct questions were minimized following Marcus' caution that

> "Moreover, our direct questions may make it psychologically impossible for him [the client, or, here, the parent] to express himself as he really is . . ." (17, p. 358)

In regard to items that could have caused embarrassment or a desire to cover up, care was taken to stress the widespread incidence of similar occurrences. Thus, some remark was usually made as to the commonness of masturbation in childhood, or of adolescent antagonism to parents, as the discussion of these arose in relation to the interviewee. Similarly other techniques were utilized to keep the subject at ease through the interviews.

Notes jotted during interviews were transcribed directly after, and the transcriptions were analyzed prior to the next interview, for items included. The presence or absence of each item was then checked on a blank containing a full list of the items to be investigated. In this way those items still needing investigation could be readily discerned. The number of interviews averaged 11.5 per family.

The children were observed in the preschool situation. Their adjustment was rated on a scale developed for use in the present study, and based on a concept of "adjustment" as including primarily three major types of functioning, namely, the child's adjustment to himself and his reciprocal interaction within his family and social (school) groups.

Each child was rated separately on this scale by the investigator and by the head teacher of the group in which the child was enrolled, at the beginning and at the close of his case. From these four discrete ratings, an average adjustment score was obtained on the basis of which an average adjustment status of "satisfactory" or "poor" adjustment was assigned to each individual.

The validity of this scale when correlated with the scores of the children obtained on the Haggerty-Olson-Wickman Behavior Rating Schedule B was represented by a Pearson product-moment coefficient of .72 ± .06. The reliability, when the separate ratings by the investigator and the head teacher were correlated, was found to give a Pearson product-moment coefficient of .95 ± .01.[2]

Records of the problems of the children were kept in the preschool situation. Reports were obtained from home on problematic behavior to supplement school records. Problems were then entered onto a check list arranged, with a few adaptations, according to headings used by Ethel Kawin in *Children of Preschool Age* (13, p. 231–238; 265–267).[3] Problems were also rated according to an adaptation of the Coded Scales of Behavior developed by Dr. Jean Macfarlane at the University of California Institute of Child Welfare (16).[4]

It should be said that the withdrawing problem was recognized as specifically as was the more aggressive sort, and that all through the preschool there was an emphasis on helping the child to express himself emotionally. This last is mentioned since, for the study under consideration, it may have meant that problems which might have been repressed in more prohibitory situations were quite freely evidenced here.

The coexistence of the presence or absence of each item of tension in the interparental relationship to child adjustment was estimated as follows:

1. By the average of the percentages of poor child adjustment in cases where tension was present, and satisfactory child adjustment in cases where tension was absent, the resulting percentage be-

[2] The extremely high agreement may be explained in part by the similarity in viewpoint of the two raters, i.e., the investigator and head teacher, since the head teachers of all three groups involved had trained under the investigator and held intrinsically the same concepts on evaluating child behavior.

[3] Permission to use this material was given by author and publishers.

[4] To be included in a monograph being published by the Society for Research in Child Development and used here by permission of the author.

ing called, for purposes of the study, a *ratio of coexistence.*

2. By the *critical ratio* of differences in proportion of child adjustment coexistent with the presence of parental tension and with absence of parental tension; and following the customary procedure of considering the difference a statistically significant one if it was three times or more its standard error.

The same procedures were followed in analyzing data concerned with the coexistence of background factors and child adjustment.

3. In addition, correlations were computed (in terms of tetrachoric coefficients) between child adjustment and those tensions in the interparental relationships showing significant critical ratios with child adjustment.
4. And a few partial correlations were computed to gain an indication of coexistence of certain of the items with others held constant.

On the matter of the relation of parental tensions to particular behavior problems, percentages were calculated to show in what proportion of cases the various problems coexisted with the various tensions.

In treating the relation of various background factors to certain of the parental tensions present while the case was in progress, critical ratios were again determined.

Findings

Coexistence of Items in the Marital Relationships of the Parents With Child Adjustment

There were certain items in the interparental relationships which showed a coexistence ratio of over 70 per cent with child adjustment and likewise a critical ratio indicating a significant difference in the adjustment of the child where the item was present and absent. (See Table 1.)

Of these, tension over a lack of sexual satisfaction ranked highest. It existed in twenty-two out of the thirty-three cases. In these twenty-two cases, two children, 9 per cent, were satisfactorily adjusted and twenty, 91 per cent, poorly adjusted; whereas in the eleven cases where sexual satisfaction was present, ten, or 91 per cent, of the children showed satisfactory adjustment and one only showed poor adjustment.

Thus the coexistence ratio of this tension with child adjustment was 91 per cent. The critical ratio 7.65.

The one factor common to all twenty-two cases in which sex tension appeared was the absence of achievement of orgasm by the women.

As illustrative of the sort of qualitative data given in interview, the following excerpts are cited:

Case 26: The mother has not wanted the father to feel "defective," as if she didn't want him to be satisfied, so she has

Table 1

Coexistence Ratios and Critical Ratios of Differences in Proportions of Child Adjustment Coexistent With Interparental Tensions

Interparental Tensions	Parental Tension Existed				Parental Tension Absent				Difference in Proportions	Sigma Difference	Critical Ratio	Coexistence Ratio
	Total Cases	Satisfactory Child Adjustment			Total Cases	Satisfactory Child Adjustment						
		Number	Proportion	Sigma		Number	Proportion	Sigma				
Sexual Relations	22	2	.091	.061	11	10	.909	.087	.818	.107	7.65	.91
Consideration	17	1	.059	.057	16	11	.687	.063	.628	.085	7.39	.81
Ascendance-Submission	18	2	.111	.074	15	10	.667	.064	.556	.098	5.67	.78
Co-operation over Child	19	3	.158	.084	14	9	.643	.066	.485	.107	4.53	.74
Extra-marital Relations	5	0	.000	.021	28	12	.428	.094	.428	.097	4.42	.71
Health	3	0	.000	.024	30	12	.400	.090	.400	.094	4.25	.70
Inability to Talk Through	22	4	.182	.083	11	8	.777	.126	.595	.152	3.92	.80
Affection	14	1	.072	.069	19	11	.579	.114	.507	.133	3.80	.75
Friends	17	2	.188	.078	16	10	.625	.122	.507	.145	3.49	.75
Work	19	3	.158	.084	14	9	.643	.128	.485	.154	3.15	.74
Relatives	19	3	.158	.084	14	9	.643	.128	.485	.154	3.15	.74
Leisure	19	4	.210	.094	14	8	.572	.133	.362	.164	2.21	.68
Finances	16	3	.187	.098	17	9	.529	.170	.342	.197	1.74	.67
Criticalness	22	6	.273	.096	11	6	.544	.150	.271	.178	1.53	.59
Tastes	6	1	.167	.155	27	11	.408	.095	.241	.182	1.32	.62

acted "pleased." She didn't know till the other day what an orgasm meant or that a woman was supposed to have one . . . She wonders if she is abnormal not to like it (Cried) . . . When she was engaged they petted. She got more enjoyment out of that than she does out of intercourse. It was a shock to her to realize that petting was a prelude to something that wasn't enjoyable. . . .

Case 27: The mother didn't give a "darn" for the sex part of marriage, would never care if she didn't see a man again in her life . . . She gets resentful and sometimes during intercourse she has to hold back the tears. And she hates her husband afterward.

Case 6: The father feels that he and the mother do not get along sexually and never have. Intercourse is all too infrequent . . . at most once a month . . . and the mother doesn't react to him . . . freezes up . . . She is set against it . . . He has tried, especially when they were first married to give her plenty of time, etc., but got no co-operation from her.

Case 33: They have never gotten over the first thrill of touching each other. They go to a movie and hold hands. The minute they come near each other there is some electric current or something. The father is wonderful to the mother sexually and satisfies her competely. She always has orgasm and feels happier and closer after intercourse.

Chief complaints on the part of the men were that the women were not sufficiently responsive and were not willing to have intercourse frequently enough; on the part of the women, that the men did not make sufficient love, that either they felt the men "to fast" or themselves "too slow," and that the men did not seem to care about the partner's satisfaction.

Tension over ascendance-submission ranked also very high. It existed in eighteen cases. In these, two children, 11 per cent, were satisfactorily adjusted and sixteen, 89 per cent, poorly adjusted; while in the fifteen cases where this type of tension did not exist, ten, or 67 per cent, of the children showed satisfactory adjustment, and five, or 33 per cent, poor.

Thus, the coexistence ratio of this tension with child adjustment was 78 per cent, and the critical ratio 5.67.

There were eleven cases where the mother was considered ascendant. In these, tension over this relationship existed in all but one case (that is in 91 per cent of cases where the mother's ascendance was admitted). On the other hand, the father was ascendant in seventeen cases. In eight of these (or 47 per cent of cases where the father's ascendance was admitted) the father's ascendance appeared to make for trouble, whereas in nine cases it did not. Hence, ascendance of the mother was a much higher tension-producing factor than was ascendance of the father.

In some cases the mother herself resented the fact that she needed to take the ascendant role.

Repeatedly, resentment or acceptance of self in a position of ascendence or submission appeared to be related to the person's background, to the sort of status he had held in his own family, and to whether or not he was in his marriage attempting to compensate for that status or prolong it.

Thus in one case, the father had been an only child and had been the "big boss" in his family. The mother on the other hand had been dominated by the maternal grandmother, had resented this and in turn resented the father's domination, facing the fact that it reminded her of the maternal grandmother's. In marriage the father was apparently seeking to maintain or prolong his earlier status of "big boss," whereas the mother was attempting in her right to "boss" in order to compensate for her earlier inability to do so; and through compensation to gain a needed self-regard.

While in another case, the ambivalent attitude could be seen of a girl not emancipated, feeling a lack of self-dependence, half wanting to prolong dependence on another, half wanting to be free, the consequent conflict within herself projecting itself into the ascendance-submission relationship, so that she would "lean," as it were on the father, and then, resentful of having done so, attempt to swing to the other extreme, in turn resented by him.

Again to briefly cite excerpts from the qualitative data reported:

Case 1: The father always has to end up with the mother's views. "If she doesn't

like my tie, I won't argue about it. I go and take it off even if I like it. She's altogether too bossy". . . . It makes him "so darn mad". . . . "What's the use of fighting her?"

Case 6: The mother reported that she was not the kind of person who could sit and say, "Yes, darling . . . I like to boss," she said, "and I do it. That's that." The father doesn't like it.

Case 5: The mother resents the father's dominance . . . there has been trouble over it. He even engages the housekeeper to feel that he is running his home.

Or, in contrast:

Case 3: The father makes the majority of decisions and the mother acquiesces. But she enjoys the things he does and is willing . . . She acknowledges it [his ascendance] to herself and to him, and to the family as a whole quite openly.

Case 14. The mother reported that the father was boss of the family. She likes it that way. She feels he should be head. She is more the clinging vine type and likes to look up to him. . . .

Frequently too, when there was no conflict in this area, decision-making was a mutual affair, the picture being of much discussion on common problems, and of referring issues of any importance to one another, with the woman usually taking responsibility for the running of the home, and the man usually holding the final word on financial matters.

The two other items which, along with the foregoing, presented the four highest ranking critical ratios in relation to child adjustment were tension over a lack of consideration, sympathy, attentiveness, and the like, and a lack of co-operation on the upbringing of the child.

Tension over a feeling that enough consideration, sympathy, and the like, was lacking in one partner for the other, existed in seventeen cases. In these, one child was satisfactorily adjusted, and sixteen, or 95 per cent, poorly adjusted. In the sixteen cases where the parents were satisfied with the consideration, sympathy and attentiveness emanating from one to the other, there were eleven children, 69 per cent, satisfactorily adjusted and five, or 31 per cent, poorly adjusted. Thus the coexistence ratio with child adjustment was 81 per cent, and the critical ratio 7.39.

Expressions of conflict here were quite similar, for example, to the following:

Case 6: According to the father, the mother is not considerate enough of him. In fact not at all. She doesn't consider his moods. For instance, he sits down to read the paper in the evening and no sooner is he comfortably settled than she calls him to do something.

Whereas a relationship of an opposite sort was described, for example, in:

Case 3: If either of them has troubles, according to the mother, they naturally give each other sympathy. Each wants to help the other . . . The father remembers even to comment on the monthly occurrence of the date of birthdays, etc., and always to comment on how happy he is that . . . they got engaged, or whatever it may be.

Case 33: The mother remembers right after the baby was born, she came home from the hospital. She can see the scene yet. The father had fixed the house so that it was a perfect bower of flowers. He is always doing something considerate like that. . . .

Lack of co-operation over the upbringing of the child existed in nineteen cases, in which three children showed satisfactory adjustment and sixteen, or 84 per cent, poor; whereas in the fourteen cases where co-operation existed, nine children, or 64 per cent, showed satisfactory adjustment and five, or 46 per cent, poor. The coexistence ratio here was 74 per cent, the critical ratio, 4.53.

The lack of co-operation centered usually on the question of discipline, the father for the most part standing on the side of greater sternness. For instance in

Case 1: The mother wishes the worker could get the father to handle the child properly. She can do nothing with the father. The other day she left the child with him during the morning and when she came home she found that the father had spanked the child four times. She doesn't believe in spanking and yet she doesn't believe that differences in discipline are good. She is patient and gives the child time. . . . The father is impatient and wants him to mind on the dot.

Other items must, for the sake of brevity, be merely enumerated. Including the four

already mentioned, the items significantly related to child adjustment were (Table 1):

Tension over sex.
Tension over lack of consideration, sympathy, attentiveness and the like.
Lack of co-operation on the upbringing of the child.
Extramarital relations.
Tension over health.
Lack of ability to talk through differences to mutually acceptable solutions.
Tension over insufficient expression of affection.
Tension over friends.
Tension over work.
Tension over relatives.

Those not significantly related were:

Tension over leisure pursuits.
Tension over finances.
Tension over the criticalness of the partner.
Tension over differences in tastes.[5]

When those items with significant critical ratios were correlated with child adjustment, the tensions over sex and over ascendance ranked highest (r_t being respectively .83 and .84).

This, along with certain emphases in the qualitative data, brought up the question as to whether these two tensions might not have been so incorporated into some of the other items as to have made the latter appear more important in relation to child adjustment than they would otherwise have been. The items with the four highest critical ratios were hence taken, and, techniques of partial correlation applied with the following among the results:

1. The correlation between child adjustment and sex tension and ascendance tension, respectively, remained relatively high when the weight of tension over consideration and lack of co-operation over child upbringing were removed.

2. On the other hand, there was an appreciable drop in the correlation of child adjustment with consideration when sex tension or ascendance tension were either one eliminated, and of child adjustment with lack of cooperation over upbringing when the weight of the ascendance tension was held constant.

3. When second order partial correlations were computed, the coefficient between child adjustment and tension over consideration dropped from .70 to —.05 when both sex tension and that over ascendance were held constant; whereas the correlation between child adjustment and lack of co-operation dropped with similar procedure of tension over sex and ascendance eliminated, from .78 to .23.

The interpretation of the foregoing was taken to be that the coexistence of sex tension with poor child adjustment and of tension over the ascendance-submission relationship with poor child adjustment were of much higher degree than was the coexistence of either tension over consideration or the lack of co-operation over the child; and furthermore that when sex and ascendance tensions were taken out, there was much slighter coexistence remaining between poor child adjustment and lack of consideration or lack of co-operation on the part of the parents. Thus the interpretation might be made, broadly, that sex tension and tension over ascendance-submission seemed to be the key items in the interparental relationships coexisting with the child's adjustment.

Coexistence of Items in Interparental Relationships With Specific Behavior Problems

Types of problem behavior were analyzed for their relative coexistence with the various parental tensions. Types of problem behavior occurring in over fifteen cases consisted of: negativism, overdependence on adults, instability, antagonism or cruelty to other children, sleep difficulties, and temper.

The parental items coexisting in the three highest proportions of cases with these child problems were: tension over sex, criticalness, and inability to talk through to mutually acceptable solutions. Lack of co-operation over child upbringing, tension over work, over ascendance, and over relatives were also seen to be coexistent in over 50 per cent of the cases with all problems enumerated above.

Parental items were similarly analyzed for their coexistence with the various child problems. Those items which occurred in over ten cases were: tension over sex, inability to talk through to mutually acceptable solutions, tension over criticalness, leisure, work, relatives, friends, consideration, lack of sufficient

[5] Tension over religion was also investigated but was dropped from statistical analysis since it was reported as present in only one case.

expressed affection, finances, ascendance-submission, and lack of co-operation on child upbringing.

Child problems coexisting in the three highest proportions alike with all these items were: negativism, overdependence on adults, and instability. Antagonism and cruelty to other children also coexisted in an almost similar proportion. Temper coexisted equally highly with inability to talk through, criticalness, ascendance tension, and that over consideration and finances. Sleeping difficulties showed in as large a percentage of cases with criticalness; and jealousy of siblings, or others, with tension over relatives.

Thus it could be seen that a number of problems appeared coexistent with a number of tensions, and further that a variety of tensions bothering the parents coexisted with a variety of child problems, without every tension, however, coexisting significantly with such constellations of behavioral manifestations as were designated by "poor child adjustment." In other words, although a variety of tensions existed jointly with problems, they did not "mass up," as it were, so that the child in the case was maladjusted, unless the tensions were of particular types.

Coexistence of Background Factors in Lives of Parents With Adjustment of Child

Mowrer, (19) and others have pointed out that the person in marriage may seek for prolongation of a role which gave him earlier satisfaction, or may try to compensate for a role, or status, which gave him the opposite. In the present study, the parents appeared frequently to be following either one or the other of these patterns. Sometimes the compensation for or prolongation of the earlier status would appear to make for friction between the partners, sometimes to fit in with concomitant needs of the other and so be productive of mutual satisfactions rather than of discord. For example:

> In case 27, the mother had been much dominated by the maternal grandparents who demanded that she take care of seven younger children to relieve the maternal grandmother who had been debilitated by quickly recurring pregnancies from the time the mother was ten on. The mother had felt burdened by the responsibilities and deprived. She had missed out on schooling, on time for friendships, and the like. Furthermore, she had not felt capable. One of the babies had died in her arms. She was blamed for not caring for the younger ones properly. In marriage she did not want to carry responsibility. She again felt incapable. The father, on the other hand, had been looked up to in his family as the most capable and intelligent of their children. He had risen "above" his family's level, and was apparently idolized by them. He was ambitious in his business. He wanted the mother to take responsibility for activities in keeping with the position he wished to hold socially. He desired to keep his own superior status in relation to the mother. She, however, resented his demands and his "bossing" probably because of a recalling of earlier domination. According to the gist of her own reporting, she and the father "get along like cats and dogs." For once one morning they did not have a quarrel and the child asked what was the matter. They jump at each others' throats all the time. They argue and argue. She is always being "laid out" for everything.

In contrast:

> In case 19, the mother had been allowed to "grow like Topsy." There had been no particular demands made on her. She was not a pretty girl, but other things like outdoor activities had been stressed. These she had readily accomplished. All in all in the growing up process she had felt easy and adequate. The father in his earlier family life had been levelled with demands for school accomplishment, and behavior of one sort and another beyond that which he felt capable of achieving. He had come to feel that he could not do things well, and he became sef-depreciative and introverted. It was hard for him, as he expressed it, to "go out to people." In the mother he found a homely, comfortable, kindly companion, naturally taking life as she found it, not apparently struggling for greater adequacy nor leadership. With her the father felt at ease, more self-confident. They enjoyed the outdoors together. The mother admired and looked up to him. In short, through the mother's wholesomeness and free admiration of him, the father apparently could find compensatory release from his earlier feelings of inferiority and domination, and a relationship satisfying to his need for greater self-regard.

In twenty cases, the seeking of compensation for or prolongation of earlier status was apparently functioning in such a way that friction in the marriage ensued. Out of these cases, there were two children who showed a satisfactory adjustment and eighteen, or 90 per cent, who showed poor adjustment. In contrast, in the thirteen cases where no friction over the item appeared to exist, ten, or 77 per cent, of the children were satisfactorily adjusted and only three poorly adjusted.

This made the coexistence ratio of child adjustment with a seeking for compensation or prolongation of an earlier status and consequent friction in the parental relationships come to 84 per cent. The critical ratio was 4.78. (See Table 2.) When the correlation between "compensation for or prolongation of earlier status with ensuing friction" was computed with child adjustment, the tetrachoric coefficient was seen to be .88, again showing a high degree of coexistence. Thus the background factor of the parent's earlier status within his own family appeared to be related to the sort of adjustment made by the child, through the way the parent's need to compensate for or prolong the earlier status functioned in his adjustment to the marriage partner.

A few other background items in the lives of the parents also showed a significant relation to child adjustment. (See Table 2.) Including the above-mentioned one, there were:

Compensation for, or prolongation of, earlier status in own family where such compensation or prolongation was connected with friction in the marriage relationship.
Earlier attachment or antagonism of mother to maternal grandfather.
Earlier antagonism of mother to maternal grandfather.
Harmony of maternal grandparents.
Father's earlier antagonism to paternal grandmother.

On the contrary, the following items did not coexist significantly with child adjustment (See Table 2):

Resentment over a change in social status at marriage.
Earlier attachment of father to paternal grandmother.[6]
Earlier attachment or antagonism of mother to maternal grandmother.
Earlier antagonism of father to paternal grandfather.
Harmony of the paternal grandparents.

It will be noted that more items in the mothers' background appeared coexistent with the child's adjustment than did items in the

[6] It will be noted that the father's attachment to the paternal grandfather is not listed. This item was investigated but was reported absent in all cases.

TABLE 2

COEXISTENCE RATIOS AND CRITICAL RATIOS OF DIFFERENCES IN PROPORTIONS OF CHILD ADJUSTMENT COEXISTENT WITH CERTAIN BACKGROUND FACTORS IN PARENTS' LIVES

Parental Background Factor	Parental Background Factor Existed				Parental Background Factor Absent				Difference in Proportions	Sigma Difference	Critical Ratio	Coexistence Ratio
	Total Cases	Satisfactory Child Adjustment: Number	Satisfactory Child Adjustment: Proportion	Sigma	Total Cases	Satisfactory Child Adjustment: Number	Satisfactory Child Adjustment: Proportion	Sigma				
Compensating or prolonging earlier status with friction	20	2	.100	.067	13	10	.770	.122	.670	.140	4.78	.84
Mother Attached own Father	7	0	.000	.022	26	11	.423	.097	.423	.100	4.23	.71
Mother's parents lacked harmony	14	1	.072	.069	19	11	.578	.114	.506	.134	3.78	.75
Mother antagonistic own Father	15	1	.067	.064	18	10	.556	.118	.489	.135	3.62	.75
Father antagonistic own Mother	13	9	.692	.128	20	3	.150	.080	.542	.152	3.56	.23
Mother antagonistic own Mother	13	2	.154	.100	20	10	.500	.112	.346	.143	2.40	.67
Mother attached own Mother	14	3	.214	.110	19	9	.474	.115	.260	.160	1.63	.63
Father antagonistic own Father	23	10	.435	.114	10	2	.200	.126	.235	.148	1.60	.38
Father attached own Mother	6	1	.167	.155	27	11	.408	.095	.241	.183	1.31	.62
Social status change resented	6	1	.167	.155	27	11	.408	.095	.241	.183	1.31	.62
Father's parents lacked harmony	16	6	.375	.122	17	6	.353	.117	.022	.170	0.13	.49

fathers'. Thus, for instance, the harmony of the maternal grandparents was appreciably related to the child's adjustment in the second generation; whereas the harmony of the paternal grandparents was not. Perhaps this is what one might expect in view of girls being more commonly held close to the family than are boys, with the quite possible consequences of being more deeply affected by what goes on within its circle.

In the qualitative data, it was of interest to note that a good part of the earlier antagonism of a father to his own parent lay in connection with a feeling that discipline had been overly severe, or, on the side of the women, frequently in relation to a feeling that the maternal grandfather had been cruel, overdominating, unfair, or the like, to the maternal grandmother and a siding in with the maternal grandmother against the maternal grandfather. Case 18, for example, illustrated both these points in the mother's reports when she brought out that

> She had been very fond of her mother and dependent on her but antagonistic to her father. He had punished her much too much. And he had gone out with "other women." Her mother had cried often over it. She had felt that he was mistreating her mother. She had hated him for it.

Relation of Certain Factors in Parental Backgrounds With Certain Items in Interparental Relationships

Did certain of the background items in the earlier lives of the parents appear to be related significantly to present marital tensions? Was poor sex education, for instance, significantly related to sexual maladjustment? Was antagonism of the mother to the maternal grandfather significantly related to tension over the ascendance-submission relationship in marriage? And so on.

To gain some insight into this matter, the four items which were shown to have the critical ratios of highest order with child adjustment were selected for further study. These were: Sex tension, tension over consideration, tension over ascendance-submission, and lack of co-operation over child upbringing. (See Table 1.) Each was taken with certain background factors which logically might have had bearing on it, and critica ratios calculated to see if significant relations did exist. A brief presentation of findings in connection with each of these four items follows.

Relation of Certain Background Factors to Tension Over Sex in Marital Relationship.— Those items showing a significant relationship to sexual adjustment in marriage were:

Compensation or prolongation of earlier status in own family with consequent marital friction.
Father's earlier attachment to the paternal grandmother.
Mother's earlier attachment to the maternal grandfather.
Father's earlier antagonism to the paternal grandmother.
Mother's earlier antagonism to the maternal grandfather.
Harmony of the maternal grandparents to each other.

The following were seen not to have statistical significance in relation to marital sexual adjustment:

Mother's earlier attachment to maternal grandmother.
Father's earlier antagonism to paternal grandfather.
Harmony of paternal grandparents.
Sex education of either father or mother.
Masturbation of either father or mother (with or without a sense of guilt).
Earlier sexual aggressions.

Concerning the matter of sex education, further should be said. From the qualitative data, it was obvious that some of the parents had managed to gain wholesome attitudes concerning sex, even though their sex education had originally been repressive or unwholesome. Case 26 illustrates this.

> Case 26: The mother in her reports stated that her parents had scared her about so many things (in connection with sex). For instance, she hadn't heard about menstruation until she started to menstruate. Then she went to her mother and her mother talked to her as if she were frightfully sinful for coming to her and talking about it . . . Her father . . . read a story from the Bible to her in which a woman tried to seduce a man and said to her as a moral that if she ever gave herself to a man, he would disown her . . . Her parents, too, had found her masturbating and had brought poison from the drugstore and kept

it in view in case they ever caught her doing it again.

Yet, in spite of this, she had managed to gain an attitude that sexual freedom and satisfaction in marriage were essential, and in spite of it, too, her sexual adjustment was adequately achieved.

This, and similar material, brought up the question as to whether, after all, it was not the holdover of poor attitudes rather than that of sex education originally having been poor that was more closely related to sexual adjustment.

Calculations pertaining to poor sex education (as shown in Table 2) had been based on data not only from those parents who had kept poor attitudes gained earlier but also from those who had overcome poor attitudes. If the former had instead been considered alone, would a more significant relationship have been seen? In other words, was there a significant difference between sexual adjustment in cases where poor attitudes from unwholesome sex education held over, and in cases where sex education had been good?

Analyzing case data for this point, the following was found:

> In sixteen cases the mother's sex education had originally been poor and her attitude toward sex still poor at the time of the case study. In all sixteen cases there was a lack of marital sexual satisfaction. Comparing these with the eleven cases in which the mother had received more wholesome sex education and among whom five cases of lack of sexual satisfaction in marriage existed, the critical ratio of 3.50 was obtained.

This indicated that a significant difference did exist in the sexual adjustment of those women having poor sex education and having held over some of the poor attitudes toward sex as compared with those women who had originally received wholesome sex education.

> As far as the men were concerned, in six cases there were those who had received poor sex education originally and who still regarded sex as being "smutty," "evil" and the like. In all these six cases, marital sexual maladjustment was shown. Comparing these with the eighteen cases where sex education had originally been good, a critical ratio of 3.40 was obtained.

Thus for the men, too, there was a significant difference in the marital sexual adjustment of those having held over poor attitudes and those whose sex education had originally been more wholesome.

Approaching the point from a slightly different angle: Concerning those cases where the parent had managed to gain wholesome attitudes concerning sex in spite of poor sex education, had a better sort of sexual adjustment come about than in those cases where a holdover of poor attitudes was still apparently functioning?[7] Or, in other words, could a significant difference in sexual adjustment be seen between cases where attitudes gained in poor sex education held over, and in cases where freer, more wholesome attitudes had been obtained?

> The mother's sex education had been poor and her attitude still poor in sixteen cases. Sexual adjustment was poor in all of these.
>
> The mother's sex education had been poor, but her attitude toward sex at the time of the case had apparently cleared in six cases. In two of these, sexual maladjustment existed (the mother feeling, for instance, that she wanted to enjoy the sex act, that she as well as the man should enter freely into it, etc., yet still manifesting inability to have orgasm).
>
> Calculating the critical ratio, it was found to be 3.42, showing a significant difference between cases where sex education for the mother had been poor with attitude still poor, as contrasted with cases where attitudes had cleared in spite of originally poor sex education.
>
> Similarly where sex education for the fathers had been poor, and where poor attitudes persisted, in all six cases there was sexual maladjustment in marriage; whereas in the ten cases where attitudes had cleared in spite of poor sex education, in seven cases sexual accord in marriage was achieved. The critical ratio here was 4.84, again showing a significant difference between cases where sex education for the father had been poor with attitude still poor as contrasted with cases where attitudes had cleared in spite of originally poor sex education.

[7] Obviously the mate's attitude, for one reason or another, might so hamper sexual adjustment as to obscure the difference. Therefore, those cases were selected for analysis in which the mate's poor attitude was not a factor.

From the foregoing, several implications stood out.

First, when either the man or the woman had received poor sex education and had held over the attitudes therein gained, there went with this a lack of sexual adjustment in marriage.

Second, the originally unwholesome ideas and attitudes concerning sex, gained through sex education of an unwholesome sort, were not insurmountable.[8] It was possible to overcome these and supplant them with more wholesome attitudes. And third, when more wholesome attitudes were gained in spite of originally poor sex education, there usually followed a satisfactory sexual adjustment in marriage.

From the data on masturbation similar conclusions were possible. Again from the qualitative data, it was apparent that early attitudes of guilt concerning experiences of masturbation sometimes held over and sometimes were overcome.

In all cases, the data on this point were not clear, the hold-over attitudes toward masturbation not having been one of the items originally investigated. In seven cases, however, reports did clearly indicate that a sense of shame in connection with earlier masturbatory pursuits had not been overcome, that old superstitions of "going crazy" and the like were still believed in as potential sequelae. In all seven of these cases, sexual adjustment was poor.

In three cases reports clearly indicated that the original ideas of guilt had been overcome, so that there was apparently no hold-over. In two of these sexual adjustment was satisfactory.

Taking into consideration these data along with the reports on masturbation received in the remaining cases, the indications seemed to be, not that earlier masturbation in itself coexisted with sexual maladjustment in marriage, not even that a sense of guilt originally having accompanied the masturbation, coexisted with sexual maladjustment (See Table 2), but that if old attitudes and superstitions regarding masturbation, or old feelings of guilt which had accompanied it, were held over, these did go together with sexual maladjustment in marriage.

[8] This obviously has constructive implications for parent education.

Relation of Certain Background Factors to Tension Over Ascendance-Submission Relationship in Marriage.—Those items showing a significant relationship with tension over ascendance-submission in marriage were:

Compensation or prolongation of earlier status in own family with consequent marital friction.

Father's earlier antagonism of the paternal grandmother.

Friction in the area of ascendance-submission almost invariably appeared colored by the type of need the parent carried over from his own background, rather blindly, into attempts to compensate for or prolong an earlier status. (See examples cited p. 191–192 and p. 194.)

Neither parent's attachment to own parents was significantly related to tension over ascendance, nor harmony in the relation of either set of grandparents, nor the mother's antagonism to her parents, nor the father's to his father.

Relation of Certain Background Factors to Tension Over Marriage Relationship, and to Co-operation Over Upbringing of Child.—In relation to tension over lack of consideration, sympathy, and the like, two background factors only were found to be statistically significant; namely, the mother's antagonism to the maternal grandfather and the harmony of the maternal grandparents.

Likewise significant differences were found in lack of co-operation over the upbringing of the children again in connection with two items, the earlier antagonism of the father to the paternal grandfather and compensation for or prolongation of earlier status which brought friction with it into the marriage.

Interpretive Comments

The fact that there is a high coexistence between a certain item of parental tension and poor child adjustment does not prove that the tension is a causative factor in the child's unadjustment. However, in interpreting the association of parental tensions with child adjustment, a causal relationship may be assumed. The fact that the child under school age has lived in closest contact with his parents, with outside contacts limited, would logically lead to the assumption (generally accepted) that the environment of the home has integrally influenced his development and behavior. Furthermore, since this

environment has intrinsically included the harmonies and disharmonies between the two people closest to him, their relationship would presumably have impinged itself onto his growing personality. This point has been widely adhered to in the literature.

Interpreting findings in the present study from this point of view, it may be said that tensions shown to have high coexistence with poor child adjustment played their role in bringing about this same poor adjustment.

This leads to several questions. Why, for instance, did the cases where sex tensions were present in the parents show an appreciably greater proportion of poor adjustment in the children, than did cases where there was disharmony over leisure pursuits, or over finances Why did the tensions over sex and over ascendance-submission appear to be those having the highest degree of association with poor child adjustment? Is there any sort of general interpretation that might somewhat explain why certain tensions were significantly associated with poor child adjustment while certain others were not?

The obvious explanation is that certain tensions created greater strain for the child in his environment in that they played more havoc, wrought more discontent, deeper unhappiness, resentment, and the like in his parents.

But one can press the point further. Were there any common characteristics in those tensions that were significantly related to the child's poor adjustment in contrast to those tensions which were not significantly related?

A possibility is that those tensions which were more significantly related to poor child adjustment were those over which the parent ordinarily had more difficulty verbalizing to the partner. This would mean that where the parent was less able to put into words matters that were distressing to him, resentment over these would "pile up" and create greater fundamental distress for him than did those matters which he could talk of more freely, which he could, as it were, "get out." In short, where he could more freely verbalize, he could more readily find emotional release for the thing bothering him.

Looking at the tensions significantly related to poor child adjustment, were they those on which the parent would have more difficulty verbalizing than those tensions not significantly related?

Taking the tensions over sex and ascendance-submission first: From the total body of evidence brought out in the study, these appeared all in all to bear the most weight in connection with child adjustment. Were these tensions over which the parent could readily verbalize?

Obviously not. Commonly in their upbringing people are taught that sex is not a subject to be freely discussed. Similarly they are taught that wanting to "boss," to "dominate," to be aggressive is undesirable. Hence it might easily follow that the parent could in his own mind have a sense of guilt over desiring greater sexual satisfaction, rationalize and think it unimportant, and so on; and that similarly he might again feel guilty in facing his own need for domination (or conceivably, too, his own need to be overly dependent or submissive, if these were the case) and might in consequence repress his own thinking through of the problem, not alone his verbalizing on it. The group investigated in the present study appeared on the whole to constitute no exception to these generalizations.

As regards other tensions, those over relatives are ordinarily believed to be subject to little or no inhibition. The proverbial haranguing over in-laws, however, was noticeably lacking in the group that participated in the present study. In the nineteen cases in which tension over relatives was present, only three were apparently perfectly outspoken to the mate concerning the matter. In the other cases there was an apparent fear of "losing out" with the mate because of interfering with his loyalties or a sense of reserve and self-condemnation in connection with infringing on loyalties, or a sense of guilt over discussing one's own relatives adversely when the source of discord arose in one's own, rather than in the partner's family. After all, the upbringing of the group under consideration had included much fostering of the idea that children should regard their parents with love and devotion, so that feelings which went counter to this precept, apparently made for conflicts and a loss of self-regard which inhibited free verbalization. As one woman expressed it, she even tried to hide from herself the fact that she resented having to live with her mother-in-law, her attitude appearing to be that such resentment would not be "sporting" of her and that it would not be in keeping with the father's loyalty to the paternal grandmother, and in turn with the

loyalty she owed the father. Criticism of friends appeared to be withheld similarly because of a feeling of shame over interfering with loyalties. Tension over work, when born of a sense of one's own failure, seemed too tense a point to express freely or, if born of the partner's failure, to involve such a degree of condemnation as to make the condemnatory party feel unfair, and again guilty, in bringing this up. To blame the partner for ill-health beyond his control again appeared to constitute an offense for which the blaming party would look down on himself. Obviously, he had to withhold speaking of extramarital relations so that where he felt guilt again in this area tension could "pile up." In itself the lack of ability to talk over differences involved an inability to verbalize sufficiently for a release of tension. As to the item of lack of co-operation over the upbringing of the child, today's child psychology as known to the sort of parent included in the present investigation preaches that father and mother must be in accord over the child, which may have accounted for the tendency to shut in differences here, apparently in order to offset a feeling of "not doing right." This leaves only the two further items of tension over consideration and tension over an insufficiency of expressed affection from among those items significantly related to child adjustment. The matter of affection was apparently often tied up with sexual expression in the parents' thinking, as was obvious from reports that stated that the parent would have liked more affection and needed it but could not ask for it because its expression would lead on to sexual advances that were not welcome. As one mother expressed it:

> Case 15: What she would like to have from the father is affection, but the minute she lets him be affectionate at all to her, then he wants other things. So she just doesn't dare be affectionate or let him be. They get tense, because if she lets him, he always expects something. Therefore she congeals because she thinks of what may happen.

Thus, demands for a greater show of affection were often withheld. The matter of consideration is, however, less readily accounted for. Apparently the parents did not, from their reports, mind complaining to the other about lacks of this nature. Hence another sort of explanation would seem called for here.

In contrast to the above items, with the exception of the last, such matters as leisure pursuits and tastes could easily be argued without any self-condemnation. So could criticism, which was considered justifiable, be openly expressed. So, too, might the complaint over finances, voiced so openly on all sides, enter in a legitimate and rationally justifiable matter over which to speak one's mind. And, as will be recalled, none of these items was found significantly related to the adjustment of the child.

In other words, in general, the degree of tension seemed inversely related to the degree of free verbalization possible to the partners on its score. When a matter of tension could be freely verbalized, it appeared to make for a less strained atmosphere than when it was of the sort that, because of hesitancy or self-condemnation or other reasons, was withheld.

A second question which arose was whether each of the present tensions was cause of discord in itself or whether certain ones were outgrowth of deeper, more fundamental difficulties.

Regarding sex tension and tension over ascendance-submission which seemed pivotal according to the data, were these born of lacks in consideration, lacks in affection, and the like; or did they rather give rise to other tensions?

It is possible to conceive of them in either way. To the investigator, it appeared that in the marital situation, tension over sex brought in its wake other tensions, that it projected itself as it were, into tension on the matter of consideration and on the matter of affection primarily, and that it secondarily bore influence on tensions over friends, work, leisure, health, and the like, but that it in turn was influenced by the struggle for ascendance when this was present and resented.

It is easily understandable that where a woman fights for ascendance, or resents anything resembling domination by another, she may be unable to give herself sufficiently to another to achieve a sexually satisfying relationship.

Similarly the matter of conflict over ascendance appeared to the investigator to bring, as did sex, other items of conflict in its wake.

In other words, tension over friends, over work, over consideration, over finances, and so on, appeared to be symptomatic as extensions of the more deep-seated irritations and frustrations arising from deprivations in the sexual area and from unsatisfied wants in relation to a need for ascendance.

Raising a question here from a practical angle, could one say then that in the preschool, when a child is seen to be unadjusted, counseling that deals with the two items of sexual adjustment and the ascendance-submission relationship might help the child to find better adjustment?

From the present study, the investigator would say that attention to these two matters might definitely be of value, but that, in order to reach adequately into either problem, it would be necessary to go back into the lives of the parents to see how needs arising out of their past were bearing on these points and on others in their present relationship.

What role had this person, for instance, played in his own earlier family life? Did he, for instance, develop because of his mother's or father's domination a need to feel adequate through dominating in turn? How has this need fitted in with his partner's needs? Has she too, because perhaps of an early sense of thwarting by a sibling, needed to feel superior? Or has she come into marriage with enough security within herself, born of her own wholesome background, to sense emotionally or to see intellectually her partner's needs without feeling resentment in adapting herself to them? Or has her own need, perhaps to be dependent, to be led, fitted in with her partner's in such a way that the new pattern of their common life brings a satisfaction to both? This whole matter has already been brought out under the heading of "compensation for, or prolongation of earlier status in own family" (See p. 191–192) and was seen to have been important in relation to child adjustment and to certain of the tensions present in the marital relationship when compensation or prolongation of earlier status was more or less blindly sought.

To the investigator, the crux of the marital tensions lay here. Beginnings seemed rooted in the earlier life history. They seemed then to have grown up into the marital situation, incorporated within the needs of each partner and represented by attitudes, prejudices, desires, and the like—in good part born and bred in the past.

However, the past's carrying into the present in old forms did not seem inevitable. New insights and learning could make for revision of past attitudes, feelings, desires, etc. It was not the thing that had originally happened to the person that necessarily persisted. Its influence seemed to depend on what the person subsequently did with it. If he retained it in its old patterning, it appeared to remain a dynamic factor as such in his present living. If, on the contrary, he could bring to bear on it intelligence, new understandings, and new emotional valuation, then he apparently so reshaped his past as to make it either impotent or useful in his present living.

Thus an old sense of guilt or shame, for instance, in relation to sex could become nullified. The findings concerning the parent's sex education and earlier masturbatory practices illustrate this (See p. 196–198). When either the man or the woman had poor sex education and held over old attitudes so gained, there went with this a lack of sexual adjustment in marriage. But the originally unwholesome ideas, superstitions, and attitudes concerning sex were not insurmountable. In many cases new understandings and more wholesome attitudes were gained and with these usually a satisfactory sexual adjustment in marriage.

Similarly through new insights, understandings, learning, and through new emotional realizations, the person could change the dynamic direction of past patterns. For example, as a person came to understand his own and his partner's needs more fully, an old need for "leaning" could become useful in enhancing a relationship with a partner who needed to lead.

In short, the past, although it did often carry over into the present, did not of necessity do so, since in certain of the cases and in certain respects it was apparently nullified or redirected according to the flexibility and the desire to learn which the person involved could call to his command.

To state the foregoing more concisely:

1. Roots of tensions appeared to extend into the past lives of the parents.

2. Where old attitudes and learnings were carried over, the most disturbing form of resultant conflicts appeared to be in the areas of sex and of the ascendance-submission relationship.

3. Other items of tension appeared to follow those in the areas of sex and ascendance.

4. Tensions in turn appeared to be intensified by the inability to verbalize about them.

5. Those creating the most intense strain, conflict, and frustration appeared most highly related, finally, to poor adjustment in the child.

Summary

A study was undertaken of thirty-three children and their parents in the preschool laboratories, Broadoaks School of Education, Whittier College. Ages of the children ranged from one year, six months to four years, eight months at the beginning of the cases, with a mean age of three years, four months, and at the close of the cases from two years, six months to six years, one month, with a mean age of four years, two months. The average number of semesters during which the cases were in progress was 2.3. The parents had been married from 5 to 17 years, the average length of marriage being 9.4 years. The children were superior intellectually (mean IQ 128). The parent group likewise was a superior one, the majority being college graduates, with occupational status of the fathers falling, in all but one case, in the two highest classes of the Sims' Scale.

The purpose of the study was to discover:

1. Which of certain tensions in the interparental relationships coexisted significantly with satisfactory or poor child adjustment.

2. Whether certain tensions coexisted more frequently with certain behavior problems in the children.

3. Whether certain background factors in the lives of the parents were significantly related to child adjustment.

4. Whether certain background factors in the lives of the parents appeared related to certain of the items present at the time of investigation in the interparental relationships.

Children were observed in the preschool, their problems recorded, and their adjustment rated. Reports were obtained from homes on problematic behavior to supplement school records.

Comparable data on the interparental relationships were secured from fathers and mothers of twenty-nine children and from mothers of four, on tensions present in the interparental relationships and on background items in the lives of the parents. Procedure was that of free interview of the psychiatric social-work type, in which rapport in the relationship of investigator to parent was recognized as an important factor in freeing the parent sufficiently to give expression to intimate details concerning his life.

In general, findings were:

1. Certain of the items reported in the interparental relationships were significantly related to child adjustment. These were: Tensions over sex, over ascendance-submission, over lack of consideration, lack of co-operation on the upbringing of the child, extramarital relations, tension over health, inability to talk over differences to mutually acceptable solution, tension over insufficient expression of affection, tension over friends, over work, and over relatives.

2. Considering the material in the light of the various types of analysis that were made, the tensions over sex and over ascendance-submission appeared to be those most appreciably related to child adjustment.

3. The following items reported in the interparental relationships did not appear significantly related to child adjustment: Tension over leisure pursuits, criticalness of the partner, tension over finances, and over differences in tastes.

4. A variety of specific types of problem behavior appeared coexistent with a variety of parental tensions, but problems did not appear to make for such constellations as might be designated by "poor child adjustment" unless the tensions were of particular types (namely those listed in 1 above).

5. Certain items in the backgrounds of the parents showed a significant coexistence with child adjustment. These were: Compensation for, or prolongation of earlier status in own family where such compensation or prolongation was connected with friction in the marriage relationship, earlier attachment or antagonism of the mother to the maternal grandfather, harmony of the maternal grandparents, and earlier antagonism of the father to the paternal grandmother.

6. Certain other items in the background of the parents did not appear significantly related to the child's adjustment, namely, a

change in social status at marriage, earlier attachment of father to paternal grandmother or of antagonism to paternal grandfather, attachment or antagonism of mother to maternal grandmother, and harmony of paternal grandparents.

7. More items in the mothers' background appeared significantly related to the child's adjustment than in the fathers'.

8. Certain background factors appeared significantly related to those four items which were most appreciably coexistent with poor child adjustment:

a. Sexual adjustment in marriage related to compensation or prolongation of earlier status in own family with consequent marital friction, father's earlier attachment or antagonism to paternal grandmother, mother's earlier antagonism or attachment to maternal grandfather, and harmony of the maternal grandparents.

b. Tension over ascendance-submission related to compensation or prolongation of earlier status in own family with consequent marital friction, and the father's earlier antagonism to the paternal grandfather.

c. Tension over consideration, sympathy and the like related to the mother's antagonism to the maternal grandfather, and the harmony of her parents.

d. Lack of co-operation over child upbringing related to compensation or prolongation of earlier status with consequent friction in marriage, and the earlier antagonism of the father to the paternal grandfather.

9. A significant difference in marital sexual adjustment was also found between those cases in which poor attitudes toward sex had been gained either from unwholesome sex education or from superstitions in regard to masturbatory pursuits when the old attitudes relative to sex, or to masturbation, held over. But where earlier unwholesome attitudes or superstitions had been replaced by less repressive ideas, no significant relation could be seen between sexual adjustment in marriage and either poor sex education or earlier masturbation.

In addition to these findings, there were some indications pointing toward the following:

1. In general the degree of tension seemed inversely related to the degree of free verbalization possible to the partners relative to a tension-producing item.

2. Rather than the two pivotal tensions of the matter of sex and ascendance resulting, as is sometimes maintained, from an accretion of tensions in other areas, they seemed to project themselves into other areas and so bring other types of tension in their wake.

3. The core of the marital situation in turn seemed rooted in the earlier life history, growing up from there into the marriage, incorporated usually rather blindly in conflicting or harmonizing needs of the partners.

4. However, when needs of the marriage partners were conflicting, making for discord and tension, the marital situation did not always seem hopeless. Rather, it appeared that new insight, learning, and emotional realization could lead to revision of past attitudes, feelings, and desires so that these did not need to remain inevitably in the form of hampering "old" patterns, but could instead be reshaped, as it were, into other patterns which might function dynamically away from conflict toward closer accord.

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PARENT-CHILD RELATIONSHIPS FROM THE CHILD'S POINT OF VIEW

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PURPOSE

This is the study of parent-child relationships from the child's point of view. The aim has been to collect information from children and young people regarding home situations and practices which they think contribute to or interfere with satisfactory family relationships. To secure this information, two separate investigations were undertaken. The purpose of both was the same; namely, to answer the following questions with regard to the influence of family relationships on family happiness:

1. What specific kinds of parental behavior do children regard as contributing to or interferring with family happiness?
2. What relative importance do children give to the behavior described as affecting family happiness?

ANALYSIS OF 2,000 ESSAYS ON THE CHARACTERISTICS OF THE IDEAL PARENT

Method Used in Securing the Data

At the investigator's request, teachers in elementary schools, high schools, and colleges in nine states[1] co-operated in securing essays from over 2,000 children and young people between the ages of ten and twenty-two, regarding their views on the question of parents and parental guidance. This was a non-selective group, from the standpoint of localities, grades in school, or individuals in any one grade or class. The essay was assigned to classes as a part of the work in composition and was written immediately after the request was made by the teacher. By allowing no time for deliberation or for discussion at home or with their friends, it was hoped to obtain frank and spontaneous statements. The essays contained the age and sex of the writer, but no name was signed to the papers and the children were assured that the unsigned essays were to be mailed immediately to someone outside the state.

The original theme suggested by the investigator was "The Kind of Parent I'd Like to Be," but variations were made by teachers and pupils so that a number of essays were written on each of the following titles:

The Kind of Parent I'd Like to Be.
Characteristics That I Think Parents Should Have.
My Ideal Mother.
My Ideal Father.
My Idea of a Good Parent.
Suggestions for Parents.
Some Do's and Don't's for Parents.

Illustrations of Essays Written

Several illustrations of the type of essays written by these 2,000 children are given below:

The Kind of a Parent I'd Like to Be (Girl—12 years old)

I would like to be a parent that is not too strict to my child. I also want her to have good manners at the table and at other people's homes and also to be polite. She will get as much as five cents a day for candy. She will also get enough sleep, work, and play, but not too much. I want my child to keep clean and neat. I will not punish her unless she needs it. I will look into her school work and will be glad to help her if necessary. I will give her a good education also. I hope she will grow to be a fine parent also.

The Kind of a Parent I'd Like to Be (Boy—11 years old)

I'd like to be a parent that forgives; but not too far. I would not be too strict or harsh in anything, for, if I should, most probably my children would be spoiled.

I would always reason things out before I acted about them.

* Based on a thesis presented to the faculty of the Graduate School of Cornell University in partial fulfillment of the requirements for the degree of doctor of philosophy.

[1] Georgia, Kansas, Missouri, New Mexico, New York, Ohio, South Dakota, Washington, Wisconsin.

I would save about one-fourth of my money for in times of need I might have very good use for it.

I would have a lot big enough for both my, and the neighbor children to enjoy.

My Idea of a Good Parent (Girl—12 years old)

My idea of a good parent is just how my own parents are. My mother is always ready to help with everything and she makes herself someone to tell all your troubles to. When I'm in any trouble my mother and father both are my main comforts. When mother has to punish me she does it for my own good and I know she would rather not have to do it. She can make up things to do and is as much fun at a movie, fair or any place or time as a best friend.

My father travels a lot in his business but when he does come home for a week-end or longer we have a grand time. We often go to movies and I invite a friend to go too and then spend the night with me. The next day we get up and when dad's home we have a grand time at mealtime for dad's always saying funny things telling about things he has seen on the last trip. Then we often take a nice ride after a day of play and fun to top off the day.

This is my idea of good parents and that's just how mine are so I think I'm one of the luckiest girls in the world.

Method Used in Analyzing the Essays

Two thousand essays, similar to those quoted above, were selected from a total of 2,372. The selection was made to obtain as large a representation of all ages of both sexes as possible. The ages of the children returning essays ranged from ten to twenty-two years, but two-thirds of the papers came from high school students between fourteen and seventeen years of age. Also, a larger number of essays were written by girls than by boys. In selecting the 2,000 papers, the aim was to make as even a distribution as possible. Consequently, all essays written by boys in the age group of fourteen to seventeen were used. The following tabulation shows the number and age of each sex group whose papers were included in the sampling of the 2,000 essays reported here.

Age Group, Years	Papers Written by Girls	Boys	Total Written
10 to 13	272	260	532
14 to 17	701	617	1,318
18 plus	122	28	150
Total	1,095	905	2,000

The method of making the analysis of these 2,000 essays was as follows: from each essay the exact words of the child were copied on 3 x 5 cards, one statement or idea to a card. Each card also contained a serial number corresponding to one on the essay, and the age and sex of the child who wrote the essay. A total of 14,000 statements was obtained from the 2,000 essays. The general outline of classification, set after a preliminary examination of several hundred essays, was enlarged whenever necessary as the analysis progressed. The children's own words and the emphasis implied in their words were retained in so far as possible in making the analysis.

Analysis of the Essay Data

When these statements were classified, it was found that the significant aspects of the data dealt with relationships which could be placed in the following general categories: (1) miscellaneous parent-child relationships, (2) relationships involved in control and discipline of children, (3) relationships arising out of privileges children desire, (4) the material aspects of homemaking, (5) the training children seek in their relationships with parents, (6) the types of relationships between siblings created by the actions of parents, (7) relationships arising out of home duties assigned to children, and (8) relationships between father and mother. In addition, almost 4,000 traits deemed desirable by the children were found in the 2,000 essays.

The tables present the frequency and percentage of each type of statement according to sex, age, and total group. For example, in Table 2, 401 girls made statements which were classified under the first category, "Parents should take an interest, etc." This is 36 per cent of 1,095, the total number of girls who wrote essays for this study. Likewise, 393 boys, or 43 per cent of the total number of boys, made statements which were classified under this category. A total of 794 boys and girls, therefore, or 40 per cent of the total of 2,000 children, made statements which were classified in the first category.

This figure, 794, represents also the total number of statements which were classified in this category. Since a number of children made more than one statement which was classifiable in one table, some of the 329 children who made statements which were classified in the second category may also have been included in the total of 794 immediately above.

Table 1 presents a frequency distribution for age and for sex groups and for the total group of the number of statements classified. The total number of statements by girls, 1,449 regarding miscellaneous parent-child relationships (classified in Table 2) is 18 per cent of 8,208, the total number of statements made by girls regarding all relationships; 930, the total number of statements made by boys regarding this relationship, is 16 per cent of the total number of statements by boys regarding all relationships. When grouped according to the three age levels, 484, the total number of statements made by children of ten to thirteen years of age regarding this relationship, is 14 per cent of the total statements by that age group; 1,659, the total number of statements made by children of fourteen to seventeen years of age regarding this relationship, is 17 per cent of the total number of statements made by that age group; and 236, the total number of statements made by children eighteen years of age and older regarding this relationship, is 21 per cent of the total number of statements made by this older age group. In all, the girls of all ages made a total number of statements of 8,208, which is 58 per cent of the 14,000 statements made by all children; the boys made a total number of statements of 5,792, which is 42 per cent of the total number of statements. Thus, girls, who comprised 55 per cent of the total group, made 58 per cent of the total statements, while boys, who represented 45 per cent of the group, made 42 per cent of the statements.

Table 2 gives the miscellaneous statements regarding parent-child relationships, arranged by sex and by age, of the children writing the essays. The first statement in Table 2, "Parents should take an interest in home and children, spend time with them instead of neglecting children for outside social interests, and participate with children at home and outside in affairs of mutual interest," most frequently mentioned by all the children (40 per cent), was also most frequently mentioned by the age and sex groups. It is the only type of statement in Table 2 which has been mentioned by more than 16 per cent of the entire group. There is little difference in the percentage of boys and girls who mention that parents should take an interest in home and children; among the age groups, those eighteen and over mention this characteristic of parents less frequently than do younger children.

Girls mention that parents should keep in the confidence of their children much more frequently than do boys, and the older children mention this relationship more frequently than do the younger ones. The older children also mention more frequently than the younger ones such relationships as independence of children and the parents' respect for the child's individuality. Girls mention more frequently than do boys the desirability of parents' friendliness and cordiality toward their friends. This is another re-

TABLE 1

FREQUENCY DISTRIBUTION FOR AGE AND SEX GROUPS OF TOTAL NUMBER OF STATEMENTS

Statements Regarding Relationships	1,095 Girls		905 Boys		Statements: 532 Boys and Girls 10 to 13 Years of Age		1,318 Boys and Girls 14 to 17 Years of Age		150 Boys and Girls 18 years and over		Boys and Girls, All Ages	
	Number	Per Cent*	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
Miscellaneous parent-child	1449	18	930	16	484	14	1659	17	236	21	2379	17
Involved in control and discipline	1163	14	968	17	636	18	1396	14	99	9	2131	15
Arising out of privileges children desire	509	6	661	11	336	10	816	9	18	2	1170	8
Relating to material aspects of homemaking	600	7	523	8	323	9	731	8	69	6	1123	8
Involved in training children	852	10	709	12	422	12	1012	11	127	11	1561	11
Between siblings created by actions of parents	149	2	87	2	57	2	159	2	20	2	236	2
Arising out of home duties assigned to children	202	3	180	3	127	4	248	3	7	1	382	3
Between father and mother	150	2	46	1	30	1	132	1	34	3	196	1
Parental traits	3134	38	1688	29	1051	30	3281	35	490	44	4822	34
Total	8208		5792		3466		9434		1100		14000	

*Percentage of total statements by group in preceding column.

TABLE 2

STATEMENTS CLASSIFIED AS MISCELLANEOUS PARENT-CHILD RELATIONSHIPS. NUMBER AND PERCENTAGE OF TWO THOUSAND YOUNG PEOPLE AND OF SEX AND AGE GROUPS WHO MENTIONED EACH TYPE OF STATEMENT

Miscellaneous Parent-Child Relationships	All Ages				Both Sexes						Total	
	1,095 Girls		905 Boys		10 to 13 (N = 532)		14 to 17 (N = 1318)		18 Years Plus (N = 150)		(N = 2000)	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
1. Parents should take interest in home and children, spend time with them, instead of neglecting children for outside social interests, and participate with children at home and outside in affairs of mutual interest	401	36	393	43	224	42	534	41	36	24	794	40
2. Parents should keep in children's confidence so that they feel able to talk over all troubles and problems	233	21	96	11	56	10	227	17	46	31	329	16
3. Parents should show interest in children's schoolwork and all other activities	111	10	79	9	37	7	142	11	11	7	190	10
4. Parents should permit children independance of thought and action, the opportunity to make their own decisions and try them out	124	11	63	7	22	4	134	10	31	21	157	9
5. Parents should respect children's individuality by not embarrassing them in public and by permitting them to voice their own opinion	92	8	53	6	19	3	109	8	17	11	145	7
6. Parents should be cordial and friendly to children's friends	114	10	30	3	12	2	105	8	27	18	144	7
7. Parents should praise and encourage children but never ridicule them	76	7	46	5	19	3	92	7	11	7	122	6
8. Parents should try to see children's point of view	66	6	46	5	17	3	77	6	18	12	112	6
9. Parents should make home pleasant, please children and make them happy	58	5	43	5	27	5	61	5	13	9	101	5
10. Parents should have confidence in children and make them feel they are trusted	56	5	30	3	12	2	60	5	14	9	86	4
11. Children should not feel afraid of parents; parents should inspire the love of their children	38	3	19	2	18	3	36	3	3	2	57	3
12. Parents should provide amusement for children	22	2	15	2	7	1	25	2	5	3	37	2
13. Parents should not recall the days when they were "young"	14	1	6	1	2	x	16	1	2	1	20	1
14. Miscellaneous statements of a general nature	44		11		12		41		2		55	
Total	1449		930		484		1659		236		2379	

x signifies a percentage smaller than .5 per cent; all percentages are given to the nearest whole number; percentages between .5 and 1. are entered as 1 per cent.

TABLE 3

STATEMENTS CLASSIFIED AS RELATIONSHIPS INVOLVED IN CONTROL AND DISCIPLINE OF CHILDREN. NUMBER AND PERCENTAGE OF TWO THOUSAND YOUNG PEOPLE AND OF SEX AND AGE GROUPS WHO MENTIONED EACH TYPE OF STATEMENT

Relationships Involved in Control and Discipline of Children	All Ages				Both Sexes						Total	
	1,095 Girls		905 Boys		10 to 13 (N = 532)		14 to 17 (N = 1318)		18 Years Plus (N = 150)		(N = 2000)	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
1. Parents should be firm, strict, require obedience and not spoil children	371	33	335	37	226	41	454	35	26	17	706	35
2. Parents should be reasonable and just, not too strict	187	17	153	17	90	18	236	18	14	9	340	17
3. Parents should control their children's activities	169	15	162	18	108	20	215	16	8	5	331	17
4. Parents should criticize constructively and reason with children instead of punishing them	141	13	132	14	72	13	187	14	14	9	273	12
5. Punishment is necessary sometimes, but parents should do it at once, never when angry, in accordance with age of child, and not too hard nor too often for minor offenses	103	9	59	7	71	13	88	7	3	2	162	8
6. Parents should avoid nagging, scold only when necessary	93	8	43	5	22	4	106	8	8	5	136	7
7. Parents should avoid corporal punishment	51	5	46	5	33	6	59	4	5	3	97	5
8. Parents should control by love, not through child's fear	20	2	19	2	11	2	18	1	10	7	39	2
9. Miscellaneous statements	28		19		3		33		11		47	
Total	1163		968		636		1396		99		2131	

lationship mentioned more frequently by the older children than by the younger ones. That parents should try to see children's point of view is also mentioned less frequently by the younger children.

Table 3 indicates the number and percentage of each group mentioning statements concerning control and discipline. Few and insignificant differences are discernible in the comparison of the proportion of girls and of boys mentioning the various statements classified in Table 3. Children in the upper age level did not mention any single statement concerning control and discipline as frequently as did the younger children. Nagging was mentioned more frequently by the middle age group of both sexes than by younger or older groups of the same sex.

The statements dealing with relationships arising out of privileges children desire are presented in Table 4. The privilege of an allowance or spending money is one of the most frequently mentioned. Many of the statements concerning an allowance added a notation, "even if very small." Others mentioned a "reasonable amount" and a few implied that a great deal of money was needed by young people, that they could never have too much. In the majority of cases, however, an allowance was mentioned without further comment.

Boys, more than girls, desire an allowance or spending money and young children more than older ones. Among the boys, age does not materially affect the frequency of mention of the desirability of spending money; boys of all ages desire money. Girls of eighteen and over rarely mentioned the need for money.

Just as a fairly large proportion of the 2,000 children mentioned firmness and discipline as necessary, so only 7 per cent favored unrestricted freedom. Nineteen per cent, or approximately one-fifth of the entire group, want a reasonable amount of social life and good times. The children's definition of "reasonable amount" of course may be different from the parent's understanding of the term. Boys are more eager to have a reasonable amount of good times than are girls, and the younger children mention this type of statement much more frequently than do older children.

To use the family car or to have a car of their own is the desire of some of these young people. It is much more important to boys than to girls, and to children of the middle age group than to younger or older ones. The use of a car does not seem to present such a problem to the boys over eighteen years of age, as indicated by the fact that the statement is made most frequently by boys fourteen to seventeen years of age. This may be accounted for in part by the minimum legal driving age which falls in this 14 to 17 age level in most states having an age regulation, or by the fact that children at this age have learned to drive or have friends who do so.

Among the younger children, the privileges involved in earning money, having pets, and

TABLE 4

STATEMENTS CLASSIFIED AS RELATIONSHIPS ARISING OUT OF PRIVILEGES CHILDREN DESIRE. NUMBER AND PERCENTAGE OF TWO THOUSAND YOUNG PEOPLE AND OF SEX AND AGE GROUPS WHO MENTIONED EACH TYPE OF STATEMENT

Relationships Arising Out of Privileges Children Desire	All Ages				Both Sexes						Total	
	1,095 Girls		905 Boys		10 to 13 (N = 532)		14 to 17 (N = 1318)		18 Years Plus (N = 150)		(N = 2000)	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
1. To enjoy reasonable amount of social life, to go to parties, picnics, hikes, etc., to have a good time with need for limits acknowledged	176	16	197	22	115	22	225	19	5	3	375	19
2. To have an allowance of spending money	109	10	165	18	101	19	168	13	5	3	274	14
3. To be given unrestricted freedom	48	4	91	10	40	7	96	7	3	2	139	7
4. To entertain own friends at home	67	6	19	2	14	2	71	5	1	1	26	4
5. To use family car or have one of own	15	1	67	7	6	1	76	6	----	----	82	4
6. To have friends and make own choice	38	3	28	3	16	3	48	4	2	1	66	3
7. To enter sports	11	1	31	3	9	1	33	3	----	----	42	2
8. To earn money	13	1	28	3	11	2	29	2	1	1	41	2
9. To have pets	10	1	18	2	9	1	19	1	----	----	28	1
10. To have room of own and decorate it	6	1	5	1	5	1	6	x	----	----	11	1
11. To help choose own clothes	7	1	4	x	3	1	8	1	----	----	11	1
12. Miscellaneous statements	7		8		7		7		1		15	
Total	509		661		336		816		18		1170	

x signifies a percentage smaller than .5; all percentages are given to the nearest whole number; percentages between .5 and 1. are entered as 1 per cent.

entering sports created relationships which appeared to be more important than to children who were older. Likewise, to have a room of their own and to decorate it and to help choose clothes are privileges mentioned frequently by both boys and girls under eighteen.

Table 5 includes the financial requirements of children, as revealed by the essays, as well as other characteristics of parents which children mentioned and which seemed best classified under the heading, "The Material Aspects of Homemaking." At least six categories in Table 5 refer directly to the finances of the home and most of the other statements included in this table deal indirectly with finances. The most frequently mentioned statement is "general care parents should give children." Fifteen per cent of the 2,000 young people, mentioned some characteristic of the ideal parent which was classifiable under this type of statement. Very little difference in proportion of age groups mentioning this general care was found and there was no difference between girls and boys. The greatest difference between girls and boys is observable in the frequency of mention of statements such as "parents should live thriftily." Twice as many boys mention this characteristic as do girls in proportion to the total number of each sex. Other sex differences appear to be negligible. In general, the older children do not mention statements dealing with the material aspects of homemaking as much as do younger children. The pleasantness, comfort, and attractiveness of the home seem to be most important to children of the middle age group.

Table 6 lists eleven types of training that children believe parents should provide them, as mentioned in their essays. The most frequently mentioned statement in Table 6 dealt with general training, help, advice, or opportunity. Almost one-fourth of the entire group made statements which might be so classified. The details of the tabulations, however, show that this applied more particularly to the girls of the older age level. The boys of the older group do not emphasize the need for advice as markedly as do the older girls.

Statements concerning relationships between siblings created by actions of parents, especially that of showing favoritism, are presented in Table 7. Although mentioned by comparatively few of the children—about 200

TABLE 5

STATEMENTS CLASSIFIED AS THE MATERIAL ASPECT OF HOMEMAKING. NUMBER AND PERCENTAGE OF TWO THOUSAND YOUNG PEOPLE AND OF SEX AND AGE GROUPS WHO MENTIONED EACH TYPE OF STATEMENT

Material Side of Homemaking	All Ages				Both Sexes						Total	
	1,095 Girls		905 Boys		10 to 13 (N = 532)		14 to 17 (N = 1318)		18 Years Plus (N = 150)		(N = 2000)	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
1. Parents should care for health of children, giving them proper food, sleep, exercise, fresh air, and caring for them when ill	152	14	138	15	98	18	177	13	15	10	290	15
2. Parents should provide a home which is pleasant, attractive, comfortable, modern, neat and clean	123	11	74	8	48	9	133	24	16	11	197	10
3. Father should have a steady job and be able to provide well for his family	62	6	73	8	40	7	84	6	11	7	135	7
4. Mother should take care of children, especially their appearance	71	6	42	5	29	5	81	6	3	2	113	7
5. Parents should provide proper clothing for children and keep same clean and well cared for	51	5	47	5	29	5	65	5	4	3	98	5
6. Parents should live economically, budget their expenses pay their bills, and save money, be thrifty	37	3	53	6	30	5	60	5	----------		90	5
7. Mother should be a good cook and a careful housekeeper	40	4	37	4	17	3	58	4	2	1	77	4
8. Parents should provide good environment	29	3	28	3	14	2	31	2	12	8	57	3
9. Housekeeping should be done with smoothly running routine	23	2	14	2	8	1	25	2	4	3	37	2
10. Parents should own their own homes, and own a car also	3	x	7	1	3	1	6	x	1	1	10	1
11. Mother should not work away from home, nor have to worry about finances	3	x	6	1	4	x	5	x	----------		9	------
12. Parents should provide good heredity	2	x	2	x	----------		3	------	1	1	4	x
13. Miscellaneous statements	4	------	2	------	3	------	3	----------			6	------
Total	600		523		323		731		69		1123	

x signifies a percentage smaller than .5 per cent; all percentages are given to the nearest whole number; percentages between .5 and 1. are entered as 1 per cent.

TABLE 6

STATEMENTS CLASSIFIED AS TRAINING CHILDREN SEEK IN THEIR RELATIONSHIPS WITH PARENTS. NUMBER AND PERCENTAGE OF TWO THOUSAND YOUNG PEOPLE AND OF SEX AND AGE GROUPS WHO MENTIONED EACH TYPE OF STATEMENT

Children Seek in Their Relationships With Parents	All Ages				Both Sexes						Total	
	1,095 Girls		905 Boys		10 to 13 (N = 532)		14 to 17 (N = 1318)		18 Years Plus (N = 150)		(N = 2000)	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
1. Character and personality training	195	18	111	12	73	13	207	16	26	17	306	15
2. All possible educational opportunities	113	10	149	16	102	19	150	11	10	7	262	13
3. Training in the social graces, especially table manners	83	8	80	9	51	10	107	8	5	3	163	8
4. Training in thriftiness and the wise use of money	46	4	64	7	32	6	71	5	7	5	110	6
5. Religious training	53	5	41	5	27	5	62	5	5	3	94	5
6. Training in habits of tidiness and cleanliness	28	3	12	1	11	2	28	2	1	1	40	2
7. Vocational guidance, but not coercion	13	1	17	2	7	1	23	2			30	2
8. Training in citizenship	14	1	14	2	12	2	15	1	1	1	28	1
9. Training in health habits	14	1	11	1	7	1	14	1	4	3	25	1
10. Sex education	11	1	5	1	1	x	8	1	7	5	16	1
11. Miscellaneous statements	15		4		2		10		7		19	
12. General help and advice, general training in good habits of living, and all possible opportunity for development	267	24	201	22	97	18	317	24	54	36	468	23
Total	852		709		422		1012		127		1561	

x signifies a percentage smaller than .5; all percentages are given to the nearest whole number; percentages between .5 and 1. are entered as 1 per cent.

TABLE 7

STATEMENTS CLASSIFIED AS TYPES OF RELATIONSHIPS BETWEEN SIBLINGS CREATED BY ACTIONS OF PARENTS. NUMBER AND PERCENTAGE OF TWO THOUSAND YOUNG PEOPLE AND OF SEX AND AGE GROUPS WHO MENTIONED EACH TYPE OF STATEMENT

Relationships Between Siblings Created by Actions of Parents	All Ages				Both Sexes						Total	
	1,095 Girls		905 Boys		10 to 13 (N = 532)		14 to 17 (N = 1318)		18 Years Plus (N = 150)		(N = 2000)	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
1. Parents should not show favoritism	122	11	72	8	47	8	143	10	13	9	194	10
2. Parents should maintain harmony among siblings (Miscellaneous statements to this general effect)	27	2	15	2	10	1	25	2	7	5	42	2
Total	149		87		57		159		20		236	

—the statements refer to a different type of relationship than those shown in other tables.

Statements dealing with relationships arising out of home duties assigned to children are presented in Table 8. There is practically no difference between the proportion of boys and of girls mentioning any of the statements listed, with one slight exception; 15 per cent of the youngest group state that children should help around the house whereas only 3 per cent of the oldest group make such statements.

The totals are more significant in Table 8 than the subtotals and proportions by groups. Twelve per cent of the entire group stated that children should have home duties and be taught to do useful tasks around the house; only 3 per cent of the entire group stated that children should not be expected to help or at least not to work too hard. Furthermore, while 1 per cent felt that children should be paid for the housework and for home duties, less than 1 per cent said that parents should bribe their children.

It may be noted that the majority of the 2,000 children did not mention any relationship arising out of home duties. Those who did seemed to feel that they owed their parents some help and that their parents owed them some training. Most of those who indicated that children should help explained that they should be taught how to do things that are useful.

Some children mentioned relationships between the father and mother as having an effect upon parent-child relationships. These statements are classified in Table 9. It may be noted from this table that statements concerning relationships between parents are more frequently made by girls than by boys, and that they are more frequently made by older children than by the younger ones.

TABLE 8

STATEMENTS CLASSIFIED AS RELATIONSHIPS ARISING OUT OF HOME DUTIES ASSIGNED TO CHILDREN. NUMBER AND PERCENTAGE OF TWO THOUSAND YOUNG PEOPLE AND OF SEX AND AGE GROUPS WHO MENTIONED EACH TYPE OF STATEMENT

Relationships Arising Out of Home Duties Assigned to Children	All Ages				Both Sexes						Total	
	1,095 Girls		905 Boys		10 to 13 (N = 532)		14 to 17 (N = 1318)		18 Years Plus (N = 150)		(N = 2000)	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
1. Children should help with home duties and parents should teach them to do useful things around the house	127	11	120	13	83	15	159	12	5	3	247	12
2. Children should not be expected to help, or at least should not work too hard	28	3	32	4	22	4	37	3	1	1	60	3
3. Parents should pay children for help either in money or extra privileges	13	1	11	1	8	1	16	1	----	----	24	1
4. Parents should not bribe children to help around the house	5	x	3	x	2	x	6	x	----	----	8	x
5. Miscellaneous statements	29		14		12		30		1		43	
Total	202		180		127		248		7		382	

x signifies a percentage smaller than .5 per cent; all percentages are given to the nearest whole number; percentages between .5 and 1. are entered as 1 per cent.

TABLE 9

STATEMENTS CLASSIFIED AS RELATIONSHIPS BETWEEN FATHER AND MOTHER. NUMBER AND PERCENTAGE OF TWO THOUSAND YOUNG PEOPLE AND OF SEX AND AGE GROUPS WHO MENTIONED EACH TYPE OF STATEMENT

Relationships Between Father and Mother	All Ages				Both Sexes						Total	
	1,095 Girls		905 Boys		10 to 13 (N = 532)		14 to 17 (N = 1318)		18 Years Plus (N = 150)		(N = 2000)	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
1. Parents should be happy, congenial, loyal to each other, co-operative and helpful to each other	73	7	25	3	13	2	63	5	22	15	96	5
2. Parents should not quarrel, especially before children	52	5	17	2	15	2	47	4	7	5	69	3
3. Parents should share in responsibility of rearing children, and agree on methods	24	2	2	x	2	x	21	2	3	2	26	1
4. Miscellaneous statements	1		2		----		1		2		3	
Total	150		46		30		132		34		196	

x signifies a percentage smaller than .5; all percentages are given to the nearest whole number; percentages between .5 and 1. are entered as 1 per cent.

Although only sixty-nine of the entire group mentioned the fact that "Parents should not quarrel, especially before children," those few expressed themselves in the essays with considerable emphasis. It is possible, therefore, that harmony between parents has a more important place in the family relationships than is shown by the few mentions it received in these essays. An explanation of this might be found in the fact that children, whose parents do not quarrel before them, are less apt to think of this as a factor in the maintenance of satisfactory family relationships.

In the preceding pages, statements of 2,000 children concerning relationships arising in actions of parents have been classified and presented in Tables 2 to 9 inclusive. The essays also mention traits which the children deem desirable in parents. No single trait was mentioned by more than 21 per cent of the entire group; only six traits were mentioned by more than 10 per cent of the group. Yet, almost 5,000 mentions of traits were found in the 2,000 essays, suggesting that the average essay contained mention of two or more. As a matter of fact, some children listed a dozen or more traits; others did not mention a single one specifically. Among those which were mentioned, there was very little repetition.

Telescoping has been done to a limited extent, but since the children's definition of a trait was not always clear nor always identical with what an adult's conception of the word might be, the telescoping has been limited. For example, trait number 22 is "thoughtful"; trait number 23 is "considerate." It might be expected that adults might use these two trait names interchangeably but evidence from the essays prevented their combination in one classification since some children stated that "parents should be thoughtful and serious." Undoubtedly, other children used the trait name "thoughtful" to

mean "considerate." For this reason, the trait names, almost as used by the children, are given in Table 10. They are listed in order of frequency of mention by the total group.

Age and Sex Differences Noted in Essay Data

When the 2,000 children and young people are grouped by age, some significant differences in emphasis given to parental traits and actions are noted. The informal tabulation below summarizes these age and sex differences. The tabulation, arranged according to frequency of mention of the statements, includes only those statements which received a frequency of mention equivalent to 10 per cent or more of the total group. Certain of the statements were mentioned more frequently by some groups than by others. When the difference in proportion of sex and of age groups for any statement was over 5 per cent, the group mentioning it more often was checked. That is, a check mark under the heading "older group" indicates that in the group eighteen years of age or older, both sexes combined, that statement was mentioned by at least 6 per cent more of the older group than by either of the two younger groups. A check mark in the column for girls means that at least 6 per cent more of the girls than of the boys checked that statement. In case two comparable groups are checked after a single statement, the interpretation should be that those two groups mentioned the particular statement more, proportionately, than the third of the comparable groups; and a double check for any statement indicates that the group so double checked mentioned the statement more often than the group checked once.

The younger children, more than the two other age groups, attached importance to par-

TABLE 10

PARENTAL TRAITS DEEMED DESIRABLE BY CHILDREN. NUMBER AND PERCENTAGE OF TWO THOUSAND YOUNG PEOPLE AND OF SEX AND AGE GROUPS WHO MENTIONED EACH TYPE OF STATEMENT

Parents Should Be	All Ages				Both Sexes						Total	
	1,095 Girls		905 Boys		10 to 13 (N = 532)		14 to 17 (N = 1318)		18 Years Plus (N = 150)		(N = 2000)	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
1. Companionable	277	25	142	16	57	10	303	23	59	40	419	21
2. Understanding	299	27	118	12	61	11	297	23	59	40	417	21
3. Kind	249	22	160	18	144	27	249	16	16	11	409	20
4. Exemplary	159	14	121	13	44	8	218	16	18	12	280	14
5. Loving and affectionate	185	17	59	6	45	8	170	13	29	19	244	12
6. Helpful	141	13	90	10	64	12	158	12	9	6	231	12
7. Pleasant, have a good natured disposition	99	9	91	10	62	11	123	9	5	3	190	10
8. Irreproachable, have no bad habits like drinking, smoking, swearing, wild parties, and bad company	98	9	89	10	52	9	129	10	6	4	187	9
9. Sympathetic	141	13	36	4	34	6	118	9	25	17	177	9
10. Cheerful, happy, jolly	92	8	37	4	36	6	91	7	2	1	129	7
11. Attractive in personal appearance, neat and clean	88	8	41	5	28	5	92	7	9	6	129	7
12. Honest	59	5	55	6	29	5	79	6	6	4	114	6
13. Modern, up-to-date	80	7	23	3	11	2	70	5	22	15	103	5
14. Deserving of children's respect and pride	70	6	30	3	13	2	70	5	17	11	100	5
15. Unselfish	68	6	28	3	26	4	54	4	16	11	96	5
16. Self-controlled, should not lose temper	51	5	42	5	32	6	53	4	8	5	93	5
17. Patient	70	6	20	2	8	1	64	5	18	12	90	5
18. Religious, a church member	53	5	28	3	13	2	62	5	6	4	81	4
19. Dependable	59	5	19	2	14	2	52	4	12	8	78	4
20. Courteous, polite	44	4	29	3	17	3	53	4	3	2	73	4
21. Fair	39	4	30	3	19	3	45	3	5	3	69	3
22. Thoughtful	48	4	20	2	20	3	45	3	3	2	68	3
23. Considerate	49	4	16	2	11	2	47	4	7	5	65	3
24. Co-operative	44	4	19	2	9	1	47	4	7	5	63	3
25. Broad, have interests outside the home	23	2	37	4	18	3	40	3	2	1	60	3
26. Educated	26	2	24	3	14	2	33	3	3	2	50	3
27. Able to show a sense of humor	36	3	14	2	10	1	35	3	5	3	50	3
28. Generous	27	2	23	3	17	3	29	2	4	3	50	3
29. Sociable	24	2	22	2	9	1	33	3	4	3	46	2
30. Open-minded	34	3	10	1	1	x	29	2	14	9	44	2
31. A good sport	27	2	12	1	8	1	26	2	5	3	39	2
32. Able to use good judgment	24	2	15	2	7	1	28	2	4	3	39	2
33. Intelligent	20	2	12	1	7	1	18	1	7	5	32	2
34. Broad-minded	24	2	7	1	3	x	18	1	10	7	31	2
35. A sportsman, liking sports	9	1	21	2	9	1	21	2	.....	.....	30	2
36. Miscellaneous (46 traits mentioned by 1 per cent or less)	298		148		99		282		65		446	
Total	3134		1688		1051		3281		490		4822	

x signifies a percentage smaller than .5; all percentages are given to the nearest whole number; percentages between .5 and 1. are entered as 1 per cent.

Rank Order	Statements	Girls	Boys	Group: Younger 10 to 13	Group: Middle 14 to 17	Group: Older 18 Plus
1	Parents should take interest in children		x	x	x	
2	Parents should be firm, strict			xx	x	
3	Children desire general help and advice				x	xx
4	Parents should be companionable	x			x	xx
5	Parents should be understanding	x			x	xx
6	Parents should be kind			x	x	
7	Children desire reasonable amount of social life		x	x	x	
8	Parents should control children's activities			x	x	
9	Parents should be reasonable			x	x	
10	Parents should keep confidence of children		x		x	xx
11	Parents should care for health of children			x		
12	Children desire allowance		x	xx	x	
13	Parents should be exemplary*				x	
14	Children seek educational opportunities		x	xx	x	
15	Children seek character training	x				
16	Children should help with home duties			x	x	
17	Parents should be helpful			x	x	
18	Parents should be loving	x				x
19	Parents should have good dispositions			x	x	
20	Parents should provide comfortable homes				x	

* Mentioned by 16 per cent of middle age group; 6 per cent of younger group; 12 per cent of older group.

ents' caring for the health of children, giving them educational opportunities, and allowances. The older group, eighteen years of age and over, mentioned more frequently the desire for help and advice from parents, and said that they wanted their parents to be companionable, understanding, loving, and confidential with their children. With the exception of the trait "loving," the middle age group, fourteen to seventeen years inclusive, mentioned the same traits as did the older group, mentioning them more frequently than did the younger children but less often than the older group.

The older group attached less importance to the traits "kind," "reasonable," and "helpful" than did the younger and middle groups; the younger and middle groups also mentioned more frequently the need for parents to have good dispositions, to take an interest in children, to be strict and firm, to allow children a reasonable amount of social life, and to expect that children should help with the home duties.

Drinking, smoking, swearing, attending wild parties, and keeping bad company were considered bad habits which are undesirable in parents by 9 per cent of the total number of children, the larger proportion of whom were fourteen to seventeen years old. This middle group also mentioned more frequently than the other two groups the opinion that parents should set a good example for their children. For the most part, this middle group agreed with either the younger or the older group, except with respect to two statements—setting a good example and providing a comfortable home.

Comparing the proportion of girls and of boys who mentioned the traits listed, it may be seen that all differences favor the girls, except in the case of several traits which were mentioned as frequently, or approximately so, by the same proportion of girls and of boys. Boys mentioned more frequently such factors as "parents should take an interest in children," "children desire a reasonable amount of social life," "parents should keep the confidence of children," "children desire to have an allowance," and "children seek educational opportunities," while the girls mentioned more frequently parental traits such as "companionable," "understanding," and "loving." The girls also desired character training more frequently than did the boys. This may suggest that the girls think in terms of abstract traits more readily than boys, or it may indicate that these traits are more important to girls than to boys.

Opinions and Attitudes of Five Hundred College Students Regarding Parental Traits and Behavior as Revealed by a Questionnaire Investigation

This section consists of a questionnaire investigation of some of the parent-child relationships considered important by 500 young people of college age. The questionnaire was based very largely on the findings from the analysis of the 2,000 essays described previously.

Construction of the Questionnaire

The questionnaire consisted of six sections. The face of the questionnaire called for such personal information regarding the responding students as sex, age, nativity of parents, religion, education and occupation of parents, urban-rural environment, and mobility of family. These personal data were thought necessary for interpreting the responses of the subjects given in the body of the questionnaire. This information also made possible comparisons of the findings of the present study with findings of other studies in which similar background data were compiled.

Section I of the questionnaire listed the ten traits deemed desirable in parents, as revealed by writers of the 2,000 essays. The students checked their opinions according to the following forms:

	Extremely	Very	Fairly	Not Very	Not at All
Most parents whom I know are strict	----	----	----	----	----
My father is strict	----	----	----	----	----
My mother is strict	----	----	----	----	----
If I were a parent I would be strict	----	----	----	----	----

The five-fold rating shown above was used in the questionnaire form to avoid the automatic checking of the middle ground; the data were telescoped into a three-point rating to avoid over-refinement.

Section II of the questionnaire listed twelve parental actions and home situations which were frequently mentioned in the essays as having more or less influence upon the children's happiness at home. The ratings were made according to a five-point scale guided by the following words; very great (influence), great, moderate, slight, and none. The home situations and parental actions follow:

Parents quarrel in front of their children.
The home is not well furnished.
Parents show partiality among children.
The father gives little time and attention to his family.
Parents demand implicit obedience.
The mother is a poor housekeeper.
Parents restrain and control social activities of children.
The father is unable to support his family comfortably.
Parents are away from home frequently because of social duties.
Children have no regular allowance.
Children feel that their parents do not understand them.
Children feel their household duties are too heavy.

Section III consisted of five multiple-choice procedure questions. Each of the questions offered five choices for checking the procedures to be followed in specific home situations. The directions asked that the students check the procedures which their own parents would have been most likely to follow in the same situations; opportunity was provided also for checking the procedures which the students themselves would follow if they were parents in similar situations. Lest the directions give a negative mind-set and lead the student to feel that he was expected to differ from his parents' procedures, the following statement was included in the directions: "If you would follow the same method as that of your parents, both marks should be placed before the same procedure."

The five home situations were chosen from *Pictures of Family Life*.[2] They will be described in detail when the results are discussed.

Section IV of the questionnaire was set up in such a way as to secure the students' opinions and what they thought was their parents' problem or controversial question. The opinions on these problems might be roughly classified as radical or conservative.

Two topics had to do with the church and with war. The statements offered for these two topics were selected from Thurstone's scales on these subjects.

Section V of the questionnaire was an attempt to measure roughly the student's conformity or suggestibility. He was given the

[2] Dennis, Lemo T.: Pictures of Family Life. Washington, D. C.: American Home Economics Association, 1935. Pp. x, 303.

opportunity to check whether he usually, frequently, sometimes, rarely, or never conforms to the actions of his group when they act differently from the way he thinks is right.

Section VI was a nine-part multiple choice designed to gain the student's estimate of his own personality adjustment. The question was taken from Watson's study of happiness of adult students.[3]

Throughout the questionnaire, the suggested responses offered for checking were scrambled within the confines of each of the above mentioned questions, and multiple-choice responses were listed in nonlogical and unidentifiable order. The order of responses used in each question may be seen from examination of the questionnaire. The order was not in accordance with scale values of the Thurstone scales, or with score values of the Watson test, or in accordance with any logical order in the opinion of the present investigator.

For ease in sorting, the data from the questionnaires were placed on 5½ by 8½ McBee cards. The McBee key-sort system is manipulated by means of cards whose edges are perforated with holes the size of a small pea, each hole representing a definite value in the group allotted to a certain classification.

Questionnaires were returned from colleges in ten states, but thirty states were represented by the students answering the questionnaires. No more than 15 per cent of the 500 students came from the same state.

Of the 500 college students filling in the questionnaire, 363 were girls and 137 were boys. The ages of the students ranged from fifteen to over forty, but 285 students were eighteen or nineteen years of age; 416 of the students were American-born of American-born parents, while thirty were of foreign parentage; 400 were Protestants, the Catholics numbering about one-sixth as many, and Jews numbering twenty-two; seventy-four reported that their parents were college-trained while the parents of 126 students had not attended high school, leaving the majority of the parents with high school education; 210 of the fathers were either farmers or retail dealers; 82 per cent of the mothers did not work outside the home. Nearly every type of urban-rural environment was represented; more than half of the students came from farms. One-half of the students had spent their lives in one type of environment. One-half of the students came from families which had two or more children, while fifty students were "only children" in their families. This gives a general picture of the background of the students who served as subjects for this part of the study.

The discussion that immediately follows gives a general picture of the significant findings. In some instances the percentages will be given to illustrate a statement or to point out the differences between ratings. Where percentages are not given, the use of the term "more" indicates a difference of over 5 per cent. The term "importance ratings" will be used to indicate ratings which were given by the students in the statement, "If I were a parent I would be very . . ." For example, "strict"—the trait discussed first in the next section of this report—is of medium importance to 69 per cent of the students; of highest importance to 5 per cent of the students; and of least importance to 23 per cent of the students because 69 per cent of the students said, "If I were a parent I would be fairly strict"; 5 per cent said, "If I were a parent I would be very strict"; and 23 per cent said, "If I were a parent I would be not at all strict."

Because of the difference in terminology in the essays and the questionnaires and the different methods of treating data collected by means of these two investigations, direct comparisons between the findings from the essays and from the questionnaires cannot be made.

The difference in the age levels of the subjects in the two investigations prohibits comparison between the findings on the basis of age. Most of the children writing essays were less than eighteen years of age, while most of the college students in the questionnaire study were eighteen years and over.

Opinions Regarding Desirable Parental Traits

It will be recalled that Section I of the questionnaire dealt with questions concerning parental traits. The general interpretation which may be placed upon these responses is as follows: the student's opinion of the possession by most parents of each trait may be interpreted as meaning his general attitude toward parents from observation plus the shading given such general opinions by his own experience with his parents. The

[3] Watson, Goodwin: "Happiness Among Adult Students of Education." *Journal of Educational Psychology*, 1930, 21, 79. (February)

rating given his own father and mother is, of course, a subjective rating, tinged not only by his general attitude toward them but perhaps also by events immediately preceding the rating. The student's ratings of each trait in respect to his own evaluation if he were a parent may be interpreted as a rating of the student's opinion of the importance of that trait. It may reflect his opinion of his own parents as he views them idealistically or it may reflect his opinion of his own parents as he sees their shortcomings.

With respect to the importance rating given to *strict*, the statement, "If I were a parent I would be . . . strict," indicates that 69 per cent of the students expect to be fairly strict, 5 per cent will be very strict, while 23 per cent expect to be lenient. Sixty-seven per cent of the group rated most parents as being fairly strict; 29 per cent rated most parents as not very or not at all strict. Only 3 per cent of the students rated most parents as being more than fairly strict. Students in the eighteen- to nineteen-year-old group reported more variation in strictness of their own parents than did other age groups; that is, there were more in this age group than in any other age group reporting very strict and very lenient parents. Strictness was also considered important by the 2,000 children writing essays, 36 per cent making some mention of this trait. Children eighteen years of age and older mentioned strictness less frequently in the essays than did children ten to thirteen and fourteen to seventeen years of age.

The importance ratings indicate that 61 per cent of the students consider being *up-to-date* important by responding, "If I were a parent I would be very up-to-date." This is less true of the older students than of the younger ones. Sixty-one per cent of the students rated most parents as being of medium degree modernity. In considering their own fathers and mothers, the older students rated them as being less up-to-date than did the younger ones. The entire group rated 20 per cent of the fathers and 11 per cent of the mothers in the lowest category, indicating a low degree of modernity. Five per cent of the essays contained statements suggesting that parents should be up-to-date, while 10 per cent of the essays mentioned a desire for a home which is pleasant, attractive, and modern.

"If I were a parent I would be very *kind*" is the response of 93 per cent of the students, while 69 per cent rated most parents as being very kind. Only 2 per cent of the students ranked most parents as being unkind. In considering their own parents, the younger students gave a higher ranking in kindness to both fathers and mothers than did the older students. Twenty per cent of the essays contained some statement which was classified as "Parents should be kind."

The importance rating given the term *religious* indicates that only 7 per cent of the students give the lowest rating, whereas 37 per cent give religiousness the highest importance rating. The majority of the group seems to seek the middle ground. Sixty-four of the students ranked most parents as being moderately religious, the others being rather evenly divided between "very religious" and "not at all religious." The older students considered most parents as less religious than did the younger ones. Four per cent of the children writing essays said parents should be religious or should be church members; 5 per cent of the children suggested that parents should give religious training.

The trait *understanding* is considered of great importance, eighty-eight of the students responding, "If I were a parent I would be very understanding." Fifty-five per cent of the students rated most parents as being of medium degree of understanding; 27 per cent rated most parents as having a high degree of understanding; 17 per cent gave them little understanding. There is considerable similarity between the ratings on understanding and those on companionability. Higher ratings in understanding were given to mothers than to fathers, 53 per cent of the students rating their fathers as being very understanding while 72 per cent so rated their mothers. Lack of understanding by fathers was indicated also. Fourteen per cent of the students gave the lowest ranking to fathers in understanding, whereas only 4 per cent of the mothers were given this lowest rating. Understanding was mentioned by 21 per cent of the essays also. This trait was named by fewer of the younger group than by the children of the middle group, fourteen to seventeen years of age.

Sincerity is another trait which ranked high in importance, 90 per cent of the students responding, "If I were a parent I would be very sincere." Fifty-three per cent gave the highest rank in sincerity to most parents, 39 per cent gave the second rank to most parents, while 5 per cent ranked most parents low in

sincerity. Older students ranked most parents higher in this trait than did younger students. Mothers were given a slightly higher rank in sincerity than were fathers—90 and 86 per cent, respectively.

Being *fair and just* was also given very high rating as a parental trait. None of the students ranked this trait as of low importance and only 7 per cent gave it the medium importance rating. "If I were a parent I would be fair and just," was given by 92 per cent of the students. Only 39 per cent of the students rated most parents high in their sense of fairness and justice; 75 per cent of the fathers and 83 per cent of the mothers were ranked high, while about 1 per cent of the students gave mothers and 3 per cent gave fathers a low rating in being fair and just. Three per cent of the children mentioned fairness in their essays, and 17 per cent said parents should be reasonable and just.

Most of the students reported that their parents were moderately or more than moderately *happy*. There was little difference in the ratings in happiness given to fathers and to mothers, 59 per cent rating both fathers and mothers in the highest category for happiness, and 23 per cent rating both in the medium rating for this trait. Although 67 per cent rated most parents of medium degree happiness, only 24 per cent gave most parents the highest rating in this trait. Five per cent of the children said, in their essays, that parents should be happy, congenial to each other; 7 per cent of the children suggested that parents should be cheerful, happy, jolly; and 5 per cent included in their essays statements about parents making the home pleasant and making their children happy.

In regard to *companionability* of parents with children, the students indicate that most parents are fairly companionable, 17 per cent are very companionable, and 25 per cent are little or not at all companionable. Mothers are considered more companionable than fathers, as evidenced by the ratings of 72 per cent for mothers and 50 per cent for fathers. The subject of companionability was mentioned more frequently in the essays than any other parental trait or action; 40 per cent of the children suggested that parents should take an interest in home and children, spend time with them and not neglect them for outside social interests, and participate with them at home and outside in affairs of mutual interest; and 21 per cent mentioned companionability as a desirable parental trait.

It will be recalled that the children whose essays were analyzed gave high importance to the fact that parents should *set a good example* for their children. "If I were a parent I would be very exemplary" is the general opinion of the college students also, 83 per cent indicating a rating of high importance to this trait. Fifty-seven per cent of the students believe that most parents set a fairly good example and 24 per cent consider most parents as setting a very good example. Mothers, with ratings of 71 per cent, were ranked higher than fathers, who were rated 66 per cent in this trait.

Table 11 below shows the percentage of the 500 college students who gave the highest of the three ratings to most parents and to their own parents in regard to the ten traits discussed above. The importance ratings are shown in the last columns of the table. The students were not asked to rate themselves as to possible degrees of happiness and of companionability. Thus, only eight traits have been considered in the last column of Table 11.

TABLE 11

RANK AND PERCENTAGE DISTRIBUTION OF STATEMENTS OF FIVE HUNDRED COLLEGE STUDENTS GIVING HIGHEST RATINGS IN REGARD TO PARENTAL TRAITS AND TRAIT ACTIONS

Most Parents Are			My Father Is			My Mother Is			If I Were a Parent I Would Be		
Rank	Per Cent		Rank	Per Cent		Rank	Per Cent		Rank	Per Cent	
1	69	Kind	1.5	86	Kind	1	95	Kind	1	93	Kind
2	53	Sincere	1.5	86	Sincere	2	90	Sincere	2	92	Fair, just
3	39	Fair, just	3	75	Fair, just	3	83	Fair, just	3	90	Sincere
4	27	Understanding	4	66	Exemplary	4.5	72	Understanding	4	88	Understanding
5.5	24	Exemplary	5	59	Happy	4.5	72	Companionable	5	83	Exemplary
5.5	24	Happy	6	53	Understanding	6	71	Exemplary	6	61	Up-to-date
7	19	Up-to-date	7	50	Companionable	7	59	Happy	7	37	Religious
8	17	Companionable	8	32	Religious	8	49	Religious	8*	5	Strict
9	15	Religious	9	29	Up-to-date	9	38	Up-to-date			
10	3	Strict	10	12	Strict	10	9	Strict			

*Only eight responses were called for in this category: thus "strict", which has the lowest ranking in the last column, appears as number 8.

From this table it will be seen that kindness, ranking first in regard to most parents and own parents, was also considered the most desirable trait by the students. In general, the ranking for own parents was fairly parallel to that of most parents as well as to the students' opinion as to the desirability of the trait. Two outstanding exceptions may be found in the rankings of understanding and up-to-dateness. In these two instances, the ratings for own parents were less than the ratings given to most parents and less than the students' opinions as to the desirability of the trait.

Opinions Regarding Parental Actions or Home Situations Influencing Family Happiness

Section II of the questionnaire listed twelve actions of parents or home situations to which the students responded by a rating of the influence each has upon family happiness.

First in the list is "parents quarreling in front of children." This was considered as having great influence upon family happiness by 86 per cent of the students. It was given a higher rating by younger students than by older ones. Three per cent of the children writing essays said parents should not quarrel, especially before children; 5 per cent of the children said parents should not lose their tempers, they should be self-controlled.

If a *home is poorly furnished* it may have some effect or influence upon family happiness but not a great deal, according to the opinions expressed. Fifty-two per cent of the students ranked this condition as of medium influence, the other students being almost equally divided between opinions as to great or no influence. Thirteen per cent of the essays contained some mention of home furnishings.

Parents showing partiality among children was ranked of first importance in influencing family happiness by 84 per cent of the students. The older students gave less importance to partiality than did the younger students. Ten per cent of the essays contained statements to the effect that ideal parents do not show favoritism between children.

Some *fathers* engrossed in business or their own affairs *give little time and attention to their children,* according to comments made by many of the children who wrote the essays. The higher rating in companionability given to mothers than to fathers in the first section of the questionnaire verified this opinion from the college students' point of view. Seventy-two per cent of the students gave a rating of first importance to the father's lack of attention, and 23 per cent gave it second importance rank. Only a few students ranked the father's lack of attention as of low influence upon family happiness.

Implicit obedience demanded of children by their parents was considered of influence on family happiness by 65 per cent of the students. It must be remembered that the extent of influence was the information requested in the questionnaire, not the kind of influence. In their essays, a large number of the children also considered obedience important. That parents should be firm, strict, should require obedience, and should not spoil children, was mentioned in 36 per cent of the essays; that parents should be reasonable and just and not too strict, was mentioned in 17 per cent of the essays; and that parents should criticize constructively the reason with children, instead of punishing them, was mentioned in 12 per cent of the essays.

That the *mother be a good housekeeper* was considered by 60 per cent of the college students a factor of first importance, whereas 29 per cent gave it second rating. Eight per cent of the essays contained mention of housekeeping also.

Parents' control of children's social life was ranked of first importance in influencing family happiness by 74 per cent of the college students, while only 6 per cent gave it the lowest rating. The younger students ranked control of their social life higher in importance than did the older students. Nineteen per cent of the children writing essays wished to enjoy a reasonable amount of social life, with need for limits acknowledged.

The *father's inability to support his family comfortably* was considered of high importance by 67 per cent of the students. It seemed to assume greater importance for the younger children than for the older ones.

One of the comments made by 40 per cent of the children writing essays was that *parents* should not be so engrossed in their own social life that they *are away from home a great deal of the time,* leaving the children alone or in any way neglecting them. The college students also gave high importance to this situation, 62 per cent ranking it of great influence upon family happiness and 27 per

cent ranking it as of second degree influence —a total of 89 per cent giving it those two high rankings. Only a few ranked it low in importance.

College students appear to be uncertain as to the extent of influence upon family happiness caused by *not having an allowance or spending money*. The lowest importance rating was given by 41 per cent of the students; 38 per cent gave it the second importance rating; and 19 per cent ranked it first in importance. Fourteen per cent of the essays contained mention of a desire on the part of the children for an allowance or spending money.

Parental *understanding* of children is approached again in this section of the questionnaire. Seventy per cent of the college students again give it high importance ranking, while in the first section of the questionnaire 88 per cent of the group responded, "If I were a parent I would be very understanding." Twenty-one per cent of the children writing the essays mentioned this trait also.

If *children feel their home duties are too heavy* a situation is created which will have medium or great influence upon the family happiness, according to the students' ratings; 43 per cent ranked this situation as of medium importance, 34 per cent gave it first rating, and 22 per cent gave it the lowest rank in importance. Twelve per cent of the children who wrote essays made some statement which was classified as "children should help with home duties and parents should teach them to do useful things around the house"; and only 3 per cent of the children said children should not be expected to help, or at least should not work too hard.

Table 12 shows the percentage of 500 college students who rated each of the parental actions or situations discussed above as of very great influence upon family happiness, and the percentage who considered these actions as having very little or no influence upon the family happiness. From this table it may be seen that, while 86 per cent of the students gave parents' quarreling the highest rank in influence, only 7 per cent considered quarreling as of little or no importance. Allowances, considered by 19 per cent of the students as of great influence, were rated as of little or no influence by 41 per cent. In general, it may be said that material aspects of family life, such as allowances, home furnishings, housekeeping methods, and home duties are considered as of less influence on family happiness than are the personal relationships involved in quarreling, partiality of parents, discipline, and companionship.

Opinions Regarding Parental Procedures of Certain Situations

In Section III of the questionnaire, five family situations were described with possible procedures which parents might follow in each situation. The students checked the procedures their own parents would have been most likely to follow in similar situations, but also the procedures they would wish to follow

TABLE 12

PERCENTAGE OF FIVE HUNDRED COLLEGE STUDENTS GIVING HIGHEST AND LOWEST RATINGS TO INFLUENCE OF PARENTAL ACTIONS AND HOME SITUATIONS UPON FAMILY HAPPINESS. ARRANGED IN DESCENDING ORDER ACCORDING TO FREQUENCY OF MENTION BY THE STUDENTS

Influence on Family Happiness		Situation	Least Influence on Family Happiness	
Rank	Per Cent Giving Highest Rating		Rank	Per Cent Giving Lowest Rating
1	86	Parents quarrel in front of their children	8	7
2	84	Parents show partiality among children	8	7
3	74	Parents restrain and control social activities of children	11	6
4	72	Father gives little time and attention to his family	12	4
5	70	Children feel that their parents do not understand them	8	7
6	67	Father is unable to support his family comfortably	8	7
7	65	Parents demand implicit obedience	8	7
8	62	Parents are away from home frequently because of social duties	4.5	11
9	60	Mother is a poor housekeeper	4.0	11
10	34	Children feel their household duties are too heavy	2.5	22
11	24	The home is not well furnished	2.5	22
12	19	Children have no regular allowance	1	41

if they were the parents in the situations. The five situations are discussed below.

Situation A—Rose is a pretty girl, popular at school and full of the zest for living. She is fifteen. Frequent arguments arise over the hours Rose returns home at night from a party or a date. Rose's parents should:

1. Forbid Rose to go to any night parties.
2. Permit her to go to night parties with an older person.
3. Decide *with* Rose the places she may go without an older person and the hour she must come home.
4. Decide *for* Rose the places she may go without an older person and the hour she must come home.
5. Not concern themselves about her social engagements.

The first procedure is the most controlled way of handling the situation; the last procedure is the most lenient. The three other procedures are middle-ground; the second a compromise; the fourth a modified control. The third procedure was considered the most desirable one by the investigator.

Eighty-four per cent of the students were agreed in checking for their own procedure, were they the parents in a similar situation, this third procedure of deciding with Rose the places she may go. The fourth procedure received almost all other checks, while 2 per cent of the group checked procedure 2, and 9 per cent checked procedure 5. None of the students voted for the most strict procedure.

When comparisons were made with data secured in the first section of the questionnaire in which students said, "If I were a parent I would be . . . strict," inconsistencies were noted. Of the students who checked procedure 4, 4 per cent had stated that they would be very strict, while 21 per cent had said they would not be very strict. Of the 23 per cent who replied, "If I were a parent I would be not very strict," only 2 per cent checked the most lenient procedure for Rose—number 5. Of the seven students who checked procedure 5, the most lenient for Rose, two of these students said, "If I were a parent I would be not very strict." Procedure 3, which was considered by the investigator as the most desirable procedure and which was checked by 84 per cent of the students, was checked by 68 per cent of the students who expect to be very strict, and by 87 per cent of those who expect to be lenient. From this it would seem that the students' solution of an actual situation is not dependent upon, and in some cases, is inconsistent with, what might be expected of them in view of the opinions expressed in answer to, "If I were a parent I would be . . ."

Situation B—John is sixteen, a senior in high school. His parents give him an allowance for spending money and do not restrict him in spending it. The amount is as much as the family can afford and all of John's "necessities" are provided for outside of his allowance. Yet John is always asking for more money for special occasions and complaining because his allowance is so small. John's parents should:

1. Increase his allowance to cover his necessities and spending money and hold him responsible for spending it.
2. Leave John's allowance as it is and refuse to give him extra spending money.
3. Leave John's allowance as it is and help him earn extra spending money.
4. Increase his allowance somewhat even at a family sacrifice.
5. Take John off an allowance and let him earn all his spending money.

The seeming inconsistencies between the college students' opinions expressed in their statements, "If I were a parent I would be very . . ." and their opinions regarding the procedures they would follow in the family situations if they were parents, which were observed in Situation A, were noted also with regard to Situation B. Of the students who, in the first section of the questionnaire, checked strictness as of great importance, 44 per cent checked procedure 3 as the best solution to the problem concerning John; 59 per cent of those who considered strictness as not very important, also checked procedure 3. This seeming inconsistency may be due to a different interpretation of the abstract term. For this reason, other comparisons were not made between the importance ratings given to parental traits by the students and the desirable procedures they checked with regard to the five family situations.

Situation C—Mary, aged ten, is having difficulty with one of her school subjects. Her parents should:

1. Talk with the teacher to find out what the trouble is.

2. Require Mary to curtail her outside activities until she improves.
3. Do nothing about it.
4. Have one of the family do her homework for her.
5. Have one of the family check over and correct her homework each night.

Procedure 1, considered by the investigator as the most desirable, was checked by 76 per cent of the students as the procedure they would follow. In view of the fact that 10 per cent of the children who wrote the essays mentioned the desirability of having parents who would show an interest in children's school work, it is noteworthy that none of the college group checked procedure 4, and only 10 per cent checked procedure 5. From this it would seem that the judgment of college students who are away from home is different from the judgment of younger children who are still attending grade and high schools and who are living at home.

Situation D — Ben is seventeen, an only child. He has a license and is a safe driver. The family has only one car. Frequently Ben and his parents want to use the car at the same time. Ben's parents should:

1. Permit Ben to take the car whenever his parents aren't using it.
2. Let him have the car whenever he wants it.
3. Forbid Ben the use of the car.
4. Refuse Ben the use of the car except on special occasions.
5. Agree upon a plan for the use of the car by Ben and his parents.

Procedure 5, considered by the investigator to be the most desirable, was checked by 82 per cent of the students; 10 per cent checked procedure 1; no one checked procedures 2 and 3; and only 3 per cent of the students checked procedure 4.

Four per cent of the children who wrote the essays mentioned a desire to use the family car or to own a car. It must be remembered that 272 of the 2,000 children were ten to thirteen years of age and that 701 of the children were fourteen to seventeen years old. Most of these children, therefore, would not be permitted to drive in states having a minimum driving age law. This may account for the small proportion of children mentioning the use of the family car as compared with the high percentage of college students who more nearly approximated Ben's age who approved the procedures giving Ben permission to use the car.

Situation E—In the *Lemar* family there are seven children, ranging from five to twenty-five years of age. The parents live on a farm. A great deal of the work in the home and on the farm falls to the lot of the children. Frequent squabbles occur among the children over the distribution and performance of their household tasks. Their parents should:

1. Make the children do any task the parents tell them to do.
2. Expect none of the children to do any of the work.
3. Let those who are willing do the work.
4. Make a schedule in a family conference so that each member knows what is expected of him and of each member of the family.
5. Allow none to play until all work is done.

These procedures each involve relationships between parents and children and among the children of the family as well.

Procedure 4 was considered the most desirable by the investigator, and 91 per cent of the students checked this procedure as their own preference.

Twelve per cent of the essays mentioned some statement classifiable as "children should help with home duties and parents should teach them to do useful things around the house." Three per cent of the children, in the essays, said something to the effect that "children should not be expected to help out, at least not to work too hard."

In general, a larger percentage of students checked for their own and for their parents' probable procedure, in each of the five family situations discussed above, the procedure considered most desirable by the investigator, the percentages of students being higher in each instance than those of parents. This is shown below:

Situation	Desirable Procedure	Probable Procedure	
		Students	Parents
		Per Cent	
A: Rose -----	3	84	79
B: John -----	3	63	46
C: Mary ----	1	76	65
D: Ben -----	5	82	57
E: Lemar family ---	4	91	68

Attitudes Towards Four Social Questions

Section IV of the questionnaire followed the same form as Section III, with situations offered regarding which the student checked his own opinion which he believed his parents held. The difference between the two sections is that III, as has been described, dealt with family situations of a more or less intimate and personal nature, and Section IV dealt with fairly abstract situations. Several social questions were described and five possible opinions regarding each one provided; each student checked his own opinion and that which he believed his parents held on each question. Table 13 gives the findings from this section of the questionnaire.

The first question concerned a social situation. Among many mixed groups of young people the *girl should pay her share of the expenses for shows, dances, etc.* Check the statement which most nearly expresses your opinion of what is correct and the statement which most nearly expresses the opinion of your parents.

1. A girl should always pay her half of the expenses.
2. The boy should pay for all entertainments and amusements.
3. If they are dependent upon their parents for their spending money, a girl should pay her share of all expenses.

Table 13

Percentage Distribution of Five Hundred College Students Sanctioning Each of Several Suggested Opinions Regarding Four Social Problems

Social Questions	Procedure	Percentage Girls (N=363)	Boys (N=137)	Total (N=500)
Opinions Regarding Girl's Sharing Expenses				
A girl should always pay her share of the expenses	1	----------	2	1
The boy should pay for all entertainments and amusements	2	3	12	6
If they are dependent upon their parents for their spending money, a girl should pay her share of all expenses	3	7	4	7
A girl should pay for parties and picnics which she plans; a boy should pay for everything when he invites her to go somewhere	4	78	54	71
Occasionally a girl should buy the show or dance tickets even though the boy has invited her	5	6	9	7
Opinions Regarding Girls' Smoking				
Girls who smoke are less worthy of esteem	1	18	18	19
No nice girls smoke	2	2	6	3
Girls should smoke when and where they please	3	2	5	3
It is all right for a girl to smoke but she should use discretion as to when and where she does it	4	56	45	53
Smoking by girls is a debatable question	5	17	16	17
Opinions Regarding the Church				
I feel the church is the greatest agency for the uplift of the world	1	46	34	42
I feel the church is trying to adjust itself to a scientific world and deserves support	2	28	22	27
I am neither for nor against the church, but I do not believe that church-going will do anyone any harm	3	19	19	19
I believe that the church is losing ground as education advances	4	2	9	4
I regard the church as a monument to human ignorance	5	----------	1	----------
Opinions Regarding War				
It is the moral duty of the individual to refuse to participate in any war, no matter what the cause	1	7	6	7
The misery and suffering of war are not worth the benefits	2	77	61	73
Only a war in which moral issues are clearly at stake is the individual under obligations to serve	3	11	24	14
The benefits of war outweigh its attendant evils	4	----------	----------	----------
There is no progress without war	5	1	1	1

4. A girl should pay for parties and picnics which she plans; a boy should pay for everything when he invites her to go somewhere.
5. Occasionally a girl should buy the show or dance tickets even though the boy has invited her.

The first opinion supposedly expresses the viewpoint of the new regime, and the second opinion the traditional point of view. Numbers 3 and 5 represent opinions which take into consideration "certain circumstances." Opinion 4 is an expression of the natural host-guest idea.

Seventy-one per cent of the students were in agreement with respect to procedure 4; only 7 per cent of the students checked 2. None of the girls and only 2 per cent of the boys checked procedure 1.

The second question dealt with girls' smoking. The opinions offered for checking were:

1. Girls who smoke are less worthy of esteem.
2. No nice girls smoke.
3. Girls should smoke when and where they please.
4. It is all right for a girl to smoke but she should use discretion as to when and where she does it.
5. Smoking by girls is a debatable question.

Opinions 2 and 3 represent two extreme points of view, while opinion 5 represents an open mind toward the subject, and opinion 4 is a conservative modern view.

Most students showed a tolerant but not extreme attitude toward girls' smoking, 53 per cent checking procedure 3 and 17 per cent checking 5. Nineteen per cent took the less tolerant attitude that "girls who smoke are less worthy of esteem."

The third and fourth questions in this section dealt with the church and with war. The opinions with regard to these two questions were selected from Thurstone's scale for determining such opinions.

THE CHURCH

1. I feel the church is the greatest agency for the uplift of the world.
2. I feel the church is trying to adjust itself to a scientific world and deserves support.
3. I am neither for nor against the church, but I do not believe that church-going will do anyone any harm.
4. I believe that the church is losing ground as education advances.
5. I regard the church as a monument to human ignorance.

Forty-two per cent of the students' opinions were that the church is the greatest agency for the uplift of the world; 27 per cent believed that the church is trying to adjust itself to a scientific world and deserves support; and 19 per cent of the opinions were neither for nor against the church.

WAR

1. It is the moral duty of the individual to refuse to participate in any war, no matter what the cause.
2. The misery and suffering of war are not worth its benefits.
3. Only in a war in which moral issues are clearly at stake is the individual under obligation to serve.
4. The benefits of war outweigh its attendant evils.
5. There is no progress without war.

Seventy-three per cent of the students checked opinion 2, that the misery and suffering of war are not worth its benefits, while none checked opinion 4, the benefits of war outweigh its evils, and only 1 per cent checked opinion 5, there is no progress without war. Seven per cent checked opinion 1, and 14 per cent checked opinion 3.

Conformity and Nonconformity Ratings

Section V of the questionnaire consisted of a single question dealing with the students' self-rating on a conformity scale. "Frequently you find yourself in a situation where people act differently from the way you think is right. In such situations do you ***usually, frequently, sometimes, rarely,*** or ***never*** conform to the beliefs and actions of the group?"

The middle ground was taken by 42 per cent of each group, who rated themselves as "sometimes" conforming to the opinions and actions of others. Seven per cent of the students rated themselves at one extreme of the scale as "usually" conforming, while 9 per cent rated themselves at the other extreme of the scale as "never" conforming. When the two upper and two lower groups are combined, 17 per cent of the students rated themselves as conforming "usually" or "frequently," 42 per cent of the group as con-

forming "sometimes," and 41 per cent of the group as conforming "rarely" or "never."

The findings in regard to this question on conformity might be expected to have a bearing upon the opinions of conformists and of nonconformists; however, there should be further comparisons between these self-rated extremists with respect to differences in opinion between students and parents. The student who rated himself as always conforming might be expected to check the same responses for his opinion and that of his parents on most of the social questions above described; and the nonconformists of both extremes, if consistent, might be expected to differ in opinion from their parents on a majority of the questions.

Conformists and nonconformists did not differ in opinion from those reported earlier in the chapter, except in a few instances. For example, the conformists were more likely to consider parents up-to-date than were the nonconformists.

Nonconformists rated most parents higher than did conformists in regard to the following attributes: religious, understanding, sincere, happy, companionable, and exemplary. Nonconformists also rated their own parents higher than did the conformists in being religious, understanding, companionable, and exemplary. In considering their own parents, in no trait did the conformists rate their parents higher than the nonconformists.

In answering the question, "If I were a parent I would be . . ." the conformists did not, in any instance, give this a higher rating than did the nonconformists; while the nonconformists gave a higher rating to religious, sincere, and fair and just.

The conformists gave a higher rating to the matter of household furnishings as having an influence upon family happiness; while the nonconformists gave a higher rating to implicit obedience, housekeeping, parents' social activities taking them away from home, and no allowances for children.

Self-Rating on Personality Adjustment

Section VI of the questionnaire gave an opportunity for self-rating on happiness or personality adjustment. The college students rated themselves in each of the nine personality adjustment categories. These nine categories progress from one extreme, described as "Life often seems so worthless that there is little to keep one going," to the other extreme, "radiant, find every day full of interesting, amusing, and worthwhile things." Between these two extremes are six gradations. The majority of the students rated themselves on one of the gradations between extremes.

The number of cases in each extreme group and in the objective group was too small to generalize thereon. A more comprehensive view of the entire group, however, may be obtained when the nine classifications are placed in three general groups. The informal tabulation below shows the percentage distribution of the students in these three general categories:

	Per Cent of Total Group
Happy	26
Even balance of happy and unhappy	57
Unhappy	11
More than one rating given or rating omitted	6

Responses of College Students Grouped by Sex, Personality Adjustment, and Various Environmental Backgrounds

Of the 500 students, 363 were girls and 130 were boys. When the students were grouped according to their self-ratings with regard to happiness, 310 were classified as happy, 55 as unhappy, and 285 as evenly balanced between happy and unhappy.

The students checked one or more of six environments in which they had lived. Classified as rural were the open country on a farm, towns of 1,000 population or less, towns of 1,000 to 2,500 population, and towns of 2,500 to 5,000 population; cities of 5,000 to 25,000 population and cities of over 25,000 population were classified as urban. Some of the students had lived in more than one type of environment; 453 students were classified as rural, and 321 students as urban.

Another grouping was made on the basis of the education of parents. Students were classified as "college" if one or more of their parents had attended a college; as "noncollege" if neither of their parents had gone to college. Of the 500 students, 292 were classified as college and 208 as noncollege.

The students who came from families where they were only children or where there was one brother or sister were classified as having a small-family background; students who came from families where there were more than two children were classified as having a large-family background. Of the 500

students, 208 were classified as small-family, and 326 were classified as large-family groups.

Summary of Questionnaire Findings

The similarities and differences in the opinions of the students, when viewed as a total group of 500 and when grouped according to sex, personality adjustment, and various environmental backgrounds, were determined. For the most part, differences in opinion were small; more than 50 per cent and even as many as 90 per cent of the students agreed in opinions and ratings.

No outstanding differences in opinion or attitude were expressed with regard to the effect upon family happiness of parental traits, of parental actions and family situations. One exception may be found in the case of unhappy students, who attached greater importance to the influence of allowances than did students of the other groups. For the most part, differences in opinion between the groups are distributed fairly evenly over a 10 to 12 per cent area.

Students who rated themselves as happy gave high ratings more frequently than did other student groups. Girls, urban students, happy students, those whose parents had gone to college, students from small families, and those from families with no adults other than parents gave more high ratings to parental traits and to the influence of parental actions upon family happiness than did the other students of comparable groups. These students also tended to take the middle ground rather than the extreme attitudes toward the four social situations; and agreed wih the investigator's selection of the most desirable procedures to be followed in the five family situations.

All students, regardless of environmental background, expect to be more up-to-date, understanding, and fair and just than they believe most parents or their own parents to be.

All students, irrespective of environmental background, considered their fathers stricter than most parents, stricter than their mothers, and stricter than they would expect to be if they were parents. The students also rated their fathers as being more up-to-date than most parents, but less up-to-date than mothers. This same rating prevailed also with regard to the attributes "religious," "understanding," "sincere," "fair and just," "companionable," and "exemplary," fathers being considered as having a higher rank than most parents, but less than mothers.

Students from small families considered their fathers to be happier than their mothers. Other groups rated their parents fairly equally in respect to happiness, or rated their mothers as being slightly happier than their fathers.

Students from small families attached greater importance to parents' quarreling before their children, partiality of parents, and the father's giving little time and attention to the family, than did students of the other groups. Boys were inclined to give lower ratings than the total group, especially with regard to the influence of the mother's being a poor housekeeper and parents' restraint and control of social activities of children. Unhappy students attached greater importance to the matter of allowances than did students of the other groups.

Table 14 shows the percentages of students who expressed opinions regarding the five family situations presented in Section III of the questionnaire. Most of the students checked for their own procedure the one considered the most desirable by the investigator. Girls, happy students, urban students, students whose parents had gone to college, and those from small families checked the procedure most popular with the entire group more frequently than did other students. Unhappy students checked more frequently the more extreme procedures, tending to be either more strict or more lenient than the majority of the students.

As will be seen from Table 15, the students held for the most part, the conservative and objective attitudes toward the four social questions. Boys and students from families with no adults checked more frequently opinion 2 with respect to whether a girl shall pay part of the expenses of social engagements with boys. Few students checked opinions 2 and 3 with regard to girls' smoking, but about one-fifth of the groups checked opinion 1, urban students and those from small families holding this opinion less than other students.

More students checked opinion 1 with regard to the church than opinion 2, although one-fourth or more or all groups except boys and uphappy students checked opinion 2. About one-fifth of all groups except happy, unhappy, and large-family checked opinion

TABLE 14

PERCENTAGE OF FIVE HUNDRED COLLEGE STUDENTS AND OF THE STUDENTS GROUPED BY SEX, PERSONALITY ADJUSTMENT, AND ENVIRONMENTAL BACKGROUND EXPRESSING OPINIONS REGARDING PROBABLE PROCEDURES IN FIVE FAMILY SITUATIONS

Family Situations	Procedure	Percentage of Students Expressing Opinions													
		Total Group	Sex		Personality Adjustment		Residence		Education of Parents		Size of Family		Adults other than Parents		
			Girls	Boys	Happy	Unhappy	Rural	Urban	College	Non-coll.	Small	Large	Other	No Other	
		500	363	137	130*	55*	453**	321**	292	208	172	326	258	242	
Situation A—Rose															
Forbid Rose to go to any night parties	1														
Permit her to go to night parties with an older person	2	2	2	2	3	2	2	2	1	3	2	2	2	2	
Decide with Rose the places she may go without an older person and the hour she must come home	***3	84	91	81	88	78	85	90	90	88	89	87	90	86	
Decide for Rose places she may go without an older person and the hour she must come home	4	6	4	9	6	13	9	5	6	6	5	6	4	7	
Not concern themselves about her social engagements	5	1	1	3	2	2	1	2	1	1	2	1	2	1	
Situation B—John															
Increase his allowance to cover his necessities and spending money and hold him responsible for spending it	1	10	12	6	6	17	10	12	13	9	12	10	11	9	
Leave John's allowance as it is and refuse to give him extra spending money	2	13	11	18	10	18	13	12	15	12	12	14	14	12	
Leave John's allowance as it is and help him earn extra spending money	***3	63	54	59	71	48	62	66	61	65	63	63	61	66	
Increase his allowance somewhat even at a family sacrifice	4				1			1			1				
Take John off an allowance and let him earn all his spending money	5	10	9	12	10	11	12	8	9	12	11	10	12	9	
Situation C—Mary															
Talk with the teacher to find out what the trouble is	***1	76	78	69	77	77	74	73	74	77	76	76	77	74	
Require Mary to curtail her outside activities until she improves	2	7	5	11	8	2	6	6	5	9	9	6	7	7	
Do nothing about it	3	1	1	1		4	1	1	1	2		2	1	1	
Have one of the family do her homework for her	4														
Have one of the family check over and correct her homework each night	5	10	9	10	7	4	9	11	12	7	10	9	7	13	
Situation D—Ben															
Permit Ben to take the car whenever his parents aren't using it	1	10	7	17	10	11	11	9	11	10	13	9	10	11	
Let him have the car whenever he wants it	2					2									
Forbid Ben the use of the car	3														
Refuse Ben the use of the car except on special occasions	4	3		9	2	2	3	2	1	3	2	3	3	2	
Agree upon a plan for the use of the car by Ben and his parents	***5	82	86	69	64	79	83	86	84	83	81	85	87	84	
Situation E—Lemar Family															
Make children do any task parents tell them to do	1	2	1	4	1	4	2	1	1	2	1	3	2	2	
Expect none of the children to do any of the housework	2														
Let those who are willing do the work	3			1											
Make a schedule in a family conference so that each member knows what is expected of him and of each other member of the family	***4	91	94	83	94	81	90	94	93	91	94	83	93	89	
Allow none to play until all work is done	5	3	1	7	1	7	3	1	3	3	4	2	2	4	

*285 students rated themselves as evenly balanced between happy and unhappy.
**Any student who reported having lived in two or more environments was classified in each.
***Indicates the situation considered most desirable by the investigator.

TABLE 15

PERCENTAGE OF FIVE HUNDRED COLLEGE STUDENTS AND OF THE STUDENTS GROUPED BY SEX, PERSONALITY ADJUSTMENT, AND ENVIRONMENTAL BACKGROUND EXPRESSING OPINIONS REGARDING FOUR SOCIAL QUESTIONS

Family Situations	Procedure	Percentage of Students Expressing Opinions													
		Total Group 500	Sex: Girls 363	Sex: Boys 137	Personality Adjustment: Happy 130*	Personality Adjustment: Unhappy 55*	Residence: Rural 453**	Residence: Urban 321**	Education of Parents: College 292	Education of Parents: Non-coll. 208	Size of Family: Small 172	Size of Family: Large 326	Adults other than Parents: Other 258	Adults other than Parents: No Other 242
Social Question 1														
A girl should always pay her half of the expenses	1	1	------	2	1	6	1	1	1	1	1	1	------	1
The boy should pay for all entertainments and amusements	2	6	3	12	5	6	6	4	6	6	7	5	5	17
If they are dependent upon their parents for their spending money, a girl should pay her share of all expenses	3	7	7	4	5	6	7	6	6	7	3	8	6	10
A girl should pay for parties and picnics which she plans; a boy should pay for everything when he invites her to go somewhere	4	71	78	54	71	68	67	76	77	68	75	69	72	57
Occasionally a girl should buy the show or dance tickets even though the boy has invited her	5	7	5	9	7	7	9	6	7	8	9	6	8	4
Social Question 2														
Girls who smoke are less worthy of esteem	1	19	18	18	23	17	18	14	16	20	14	21	16	21
No nice girls smoke	2	3	2	6	2	4	3	2	3	3	2	3	3	2
Girls should smoke when and where they please	3	3	2	5	2	4	2	2	3	2	2	3	2	4
It is all right for a girl to smoke but she should use discretion as to when and where she does it	4	53	56	45	52	55	51	62	58	50	62	48	55	51
Smoking by girls is a debatable question	5	17	17	16	17	17	19	17	15	18	16	17	16	17
Social Question 3														
I feel the church is the greatest agency for the uplift of the world	1	42	46	34	44	33	40	41	35	42	38	44	41	44
I feel the church is trying to adjust itself to a scientific world and deserves support	2	27	28	22	28	22	26	26	28	27	28	25	25	27
I am neither for nor against the church, but I do not believe that church going will do anyone any harm	3	19	19	19	16	30	21	20	12	21	22	15	20	18
I believe that the church is losing ground as education advances	4	4	2	9	4	9	5	5	3	4	5	2	4	4
I regard the church as a monument to human ignorance	5	----------		1	1	----------		1	1	------	1	------	1	------
Social Question 4														
It is the moral duty of the individual to refuse to participate in any war, no matter what the cause	1	7	7	6	12	4	8	7	8	6	6	5	8	6
The misery and suffering of war are not worth its benefits	2	73	77	61	74	72	73	74	73	73	74	72	72	74
Only in a war in which moral issues are clearly at stake is the individual under obligation to serve	3	14	11	24	10	18	13	15	14	14	10	5	14	14
The benefits of war outweigh its attendant evils	4	----------												
There is no progress without war	5	1	1	1	1	2	1	1	1	1	1	1	1	1

*285 students rated themselves as evenly balanced between happy and unhappy.
**Any student who reported having lived in two or more environments was classified in each.

3; more unhappy students checked this opinion than did students of the other groups and fewer happy students and large-family students checked it. Nearly one-tenth of the boys and unhappy students checked opinion 4.

Although most of the students checked opinion 3 with regard to war, this was checked less frequently by boys. Opinion 4 was checked more frequently by boys and unhappy students than by those of other groups.

Students rating themselves as unhappy also rated themselves as conforming more frequently than did the other students. This was true also in the case of boys. Students

from families with no adults other than parents appear to conform least often; while girls, students whose parents have gone to college, students from small families, and those from families with no adults other than parents conform rarely or never. Little difference in the self-ratings on conformity obtained between the rural and urban groups.

Very little variation in happiness prevailed between the groups, according to the self-ratings of the students. What differences there were appeared to be in favor of students from large families, students whose parents went to college, and students from families with no adults other than parents. Boys appeared to be more unhappy than other students; about 16 per cent of the boys rated themselves as being very unhappy. The students rated themselves fairly equally in regard to having an even balance between being happy and unhappy, the highest ratings in this respect being given by students from families with no adults other than their parents. The large-family students ranked second in rating themselves high in this middle ground of personality adjustment.

Comparison of Questionnaire Findings With Essay Statements

Because of the difference in terminology in the essays and in the questionnaires and the different methods of treating the data collected by means of these two investigations, direct comparisons between the findings cannot be made. The comparisons take into consideration, in addition to essay statements which are expressed in the same terms as the traits and actions with which they are being compared, other statements which might be interpreted as having the same meaning for the children as the traits and actions named in the questionnaire.

The difference in the age levels of the subjects in the two investigations prohibits comparisons between the findings on the basis of age. Most of the children writing essays were less than eighteen years of age, whereas most of the college students were eighteen years of age and over. This difference in age may account for some of the differences in opinions collected through the two investigations. The average age of the college students was about the same as that of the older group of young people who wrote essays, eighteen years of age and over.

When the findings from the two groups writing essays are compared, it may be noted that the older group mentioned more frequently than the younger group that parents should be companionable and understanding, and should give general help and advice and keep the confidence of children. Among the college students, "companionable" was mentioned by 72 per cent; and "understanding" by 88 per cent. "Keeping the confidence of children" and "giving general help and advice" were not included among the terms submitted to the college students for checking. "Sincere" was checked, however, by 90 per cent of the students, and "fair and just" was checked by 92 per cent.

"Kind" and "fair and just," the two traits which received the greatest frequency of mention by the college students, were included in 20 and 17 per cent, respectively, of the essay statements; while "sincere," which was mentioned nearly as often by the college students as were the first two traits, was not mentioned by that term in the essays. It may be that this particular term is not unimportant to the 2,000 children who wrote the essays, but that it doesn't happen to be a term which they use frequently. Other traits which they mentioned may have for them the meaning given to "sincere" by the college group. It must be remembered, also, that the interpretations of the essay statements were made by the investigator and that the word "sincere" was submitted to the college students for checking.

"Companionability," which was mentioned in 40 per cent of the essays, was checked by 88 per cent of the students as of greatest influence upon family happiness. The essays contained several statements concerned with the matter of discipline, which was mentioned by 65 per cent of the college students as of great influence upon family happiness. Twelve per cent of the children who wrote essays said that parents should criticize constructively and reason with children instead of punishing them; 17 per cent suggested that parents should be reasonable and just, and not too strict; and 36 per cent stated that parents should be firm and strict, should require obedience, and should not spoil children. Five per cent of the college students said, "If I were a parent I would be very strict," while 69 per cent expect to be of medium degree strictness. Only 23 per cent of the students said they would be lenient or not at all strict.

The material aspects of homemaking are considered less important, so far as the happiness of the family is concerned, than the traits affecting personal relationships. For example, "understanding" is mentioned by 88 per cent of the college students as important and by 21 per cent of the children writing essays; "quarreling before children" was mentioned by 86 per cent of the students and 3 per cent of the children; and "partiality" was mentioned by 84 per cent of the students and by 10 per cent of the children. The fact that the mother was a poor housekeeper was considered important by 60 per cent of the students and 6 per cent of the essayists; home duties of children, by 34 per cent of the students and 15 per cent of the children; home furnishings, by 24 per cent of the students and 10 per cent of the children writing essays; and allowances, by 19 per cent of the students and 14 per cent of the children.

That family happiness is influenced to a considerable extent by parents' restraint and control of the social life of children is the opinion of the college students; 19 per cent of the children writing essays expressed a desire to have a reasonable amount of social life.

The necessity for parents to set a good example was mentioned by 28 per cent of the children's essays and was considered important by 83 per cent of the college students.

Recognizing the difficulties presented in making comparisons between the findings in studies based on different age levels and in which the terminology is different, it is apparent from the comparisons above that children of all ages believe that parents should be exemplary and should possess the traits which bring about happier relationships in the family and establish confidence between parents and children. In fact, these traits are given greater importance than are the more material aspects of homemaking.

The difficulties presented in making these comparisons, as well as the questions arising with regard to some of them, offer possibilities for further study.

Summary and Conclusions

This study of parent-child relationships was from the child's point of view. The aim of this study was to collect information from children and young people regarding home situations and practices which they think contribute to or interfere with satisfactory family relationships. To secure this information, two separate investigations were undertaken (1) an analysis of 2,000 essays written by children under eighteen years of age on the characteristics of the ideal parent and (2) an analysis through questionnaires of opinions and attitudes of 500 college students regarding parental traits and family situations.

From the findings of this study, the following conclusions based upon the opinions and attitudes as expressed through the essays and questionnaires, may be made regarding the young people who participated in this study:

1. They desire admirable traits in parents. Parental traits such as kindness, sincerity, fairness and justice were ranked higher by the college students than were material aspects of home life.

2. They want companionship with their parents. This wish was expressed by 40 per cent of the young people who wrote the 2,000 essays, while two-thirds of the college students considered that family happiness was affected by the father's giving little time and attention to the family and by the parents' being away from home frequently because of social engagements.

3. Young people consider the material aspects of home life of less importance than admirable parental traits and companionship with parents. That a father should be able to support his family comfortably was the general opinion expressed, but home furnishings and children's allowances were considered to have less influence upon family happiness than such traits as kindness, understanding, and companionability.

4. The attitude of young people toward the question of money was revealed in several ways. A desire for education in thrift through the management of allowances was expressed as well as the belief that parents should be thrifty and economical.

5. Children want discipline to be firm but fair. The importance attached to such traits as kindness, understanding, sincerity, fairness, and justice must be taken into consideration when reporting the students' opinions that discipline should be strict. Young people believe parents should avoid nagging; scolding only when it is necessary; that they should see the children's point of view; and that they should be self-controlled and not employ corporal punishment. Children should not be

afraid of their parents, is their belief. When punishment must occur, it should be done at once, in accordance with the age of the child; it should never be administered when the parent is angry; and it should not be too hard nor given too often for minor offenses—these were opinions stated by the young people in this study.

6. They appear to be normal, well-adjusted young people. A large proportion of the young people reported themselves as being evenly balanced between happy and unhappy.

7. They are not inclined to be critical of their parents. The college students rated their parents higher than they rated most parents; but they said that if they were parents they would be more up-to-date, understanding, fair and just than their own or most parents are.

8. They desire a voice in the family plans and in decisions affecting them. The young people expressed the wish that problems or differences of opinion might be discussed with their parents and that they might present their sides to questions for fair consideration. They suggested family conferences to plan what work each member of the family is to do as well as to decide such matters as allowances, schoolwork, and the use of the family car.

9. The opinions and attitudes of these young people are not influenced to any great extent by sex, personality adjustment, or by variations in environmental backgrounds. Girls, students who rated themselves as happy, urban students, students from small families, those whose parents had gone to college, and students from families with no adults other than parents, were inclined to give higher ratings than were the other students grouped according to various backgrounds. Students who rated themselves as happy, more than any other group, gave high importance ratings to the parental traits and considered their own parents and most parents as having these desirable traits to a high degree.